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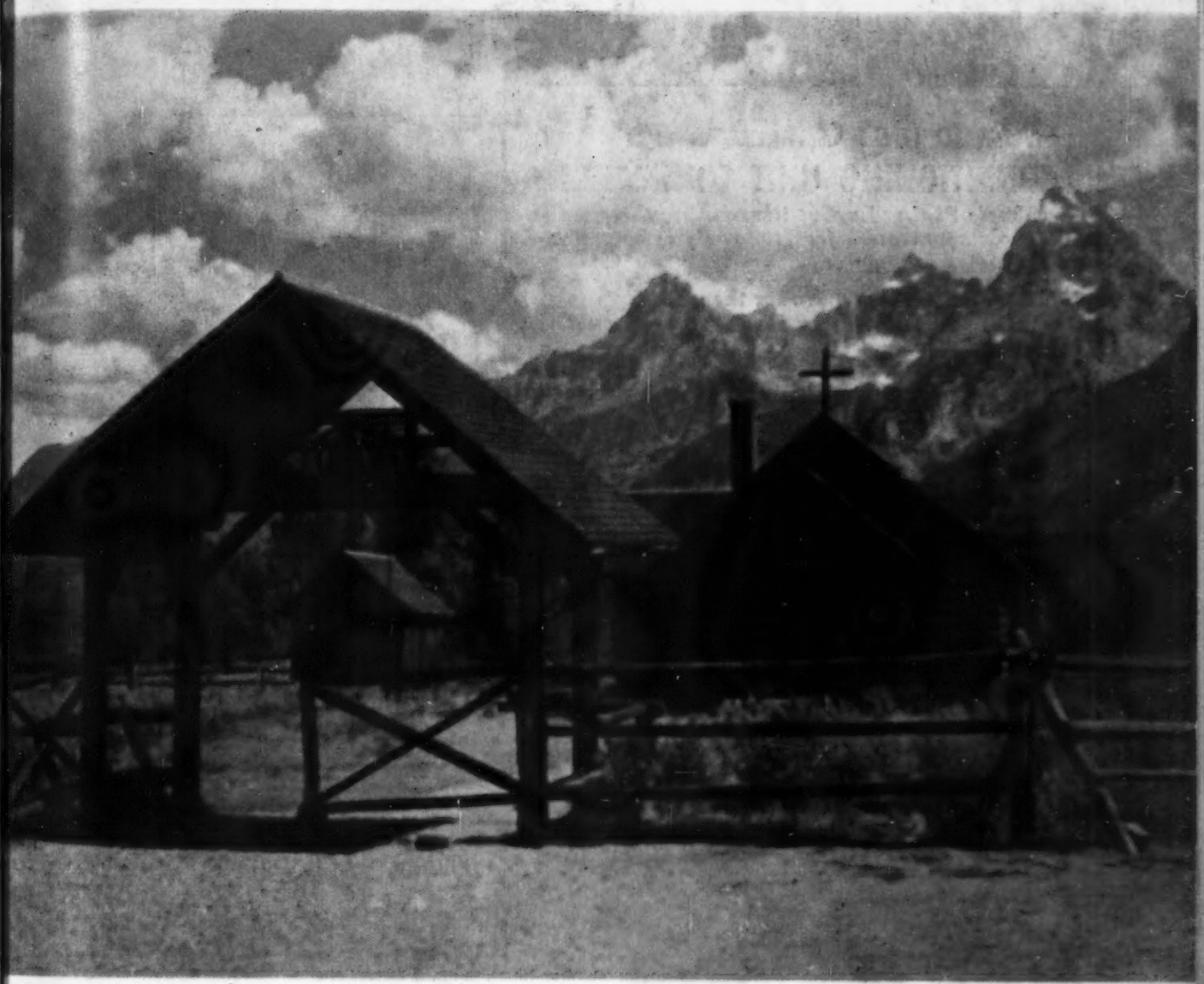

PROGRESSIVE ARCHITECTURE
PENCIL POINTS

NUMBER 12 DECEMBER 1945

Jenkins PRACTICAL PIPING LAYOUTS 4

How to plan CHILLED WATER AIR CONDITIONING UNIT CONNECTIONS

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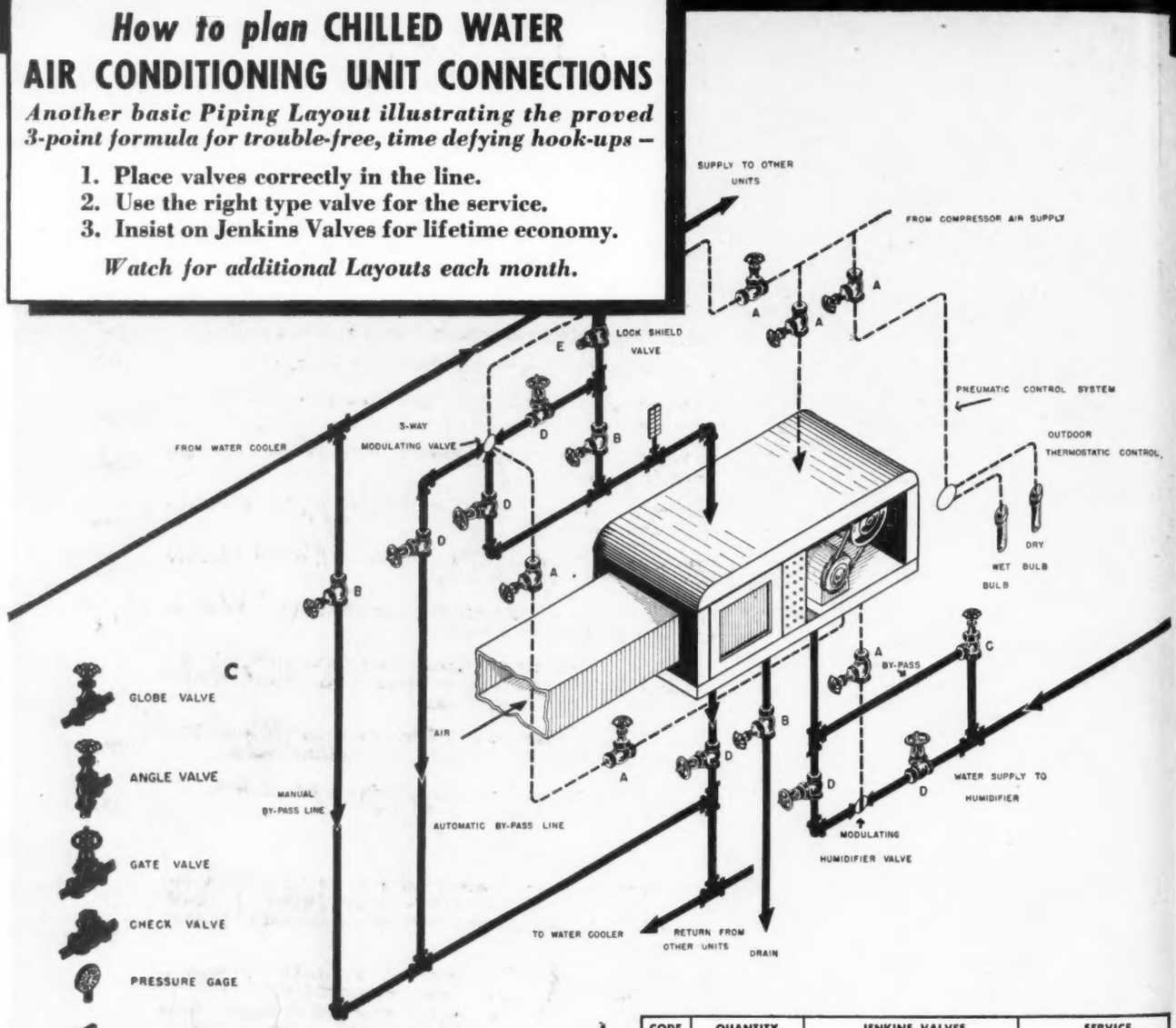

VALVE RECOMMENDATIONS

For details – and valves to suit varying conditions–see Jenkins Catalog.

CODE	QUANTITY	JENKINS VALVES	SERVICE
A	6	FIG. 106-A BRONZE GLOBE	CONTROL AIR LINES
B	3	FIG. 106-A BRONZE GLOBE	CHILLED WATER LINES
C	1	FIG. 108-A BRONZE ANGLE	CHILLED WATER LINES
D	6	FIG. 368 O.S.&Y. GATE FIG. 47 T.S. GATE	CHILLED WATER LINES
E	1	FIG. 106-A LOCK SHIELD GLOBE	CHILLED WATER LINES

Layout By Huxley Madeheim, Cons. Eng.

IN LARGER INSTALLATIONS, indirect, chilled-water-in-coils air conditioning systems are often used, in the interest of water conservation. Normal operation of these systems is accomplished by the use of three way modulating valve which automatically changes the proportion of water which passes through the unit and that which passes around the unit; total water volume being regulated by the lock shield globe valve.

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PROGRESSIVE ARCHITECTURE
PENCIL POINTS

December, 1945

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REINHOLD

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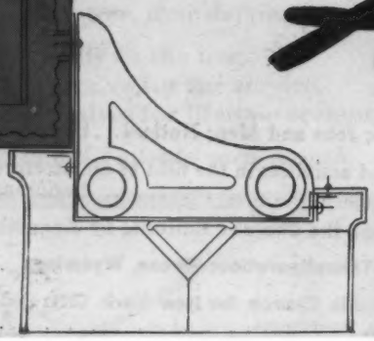
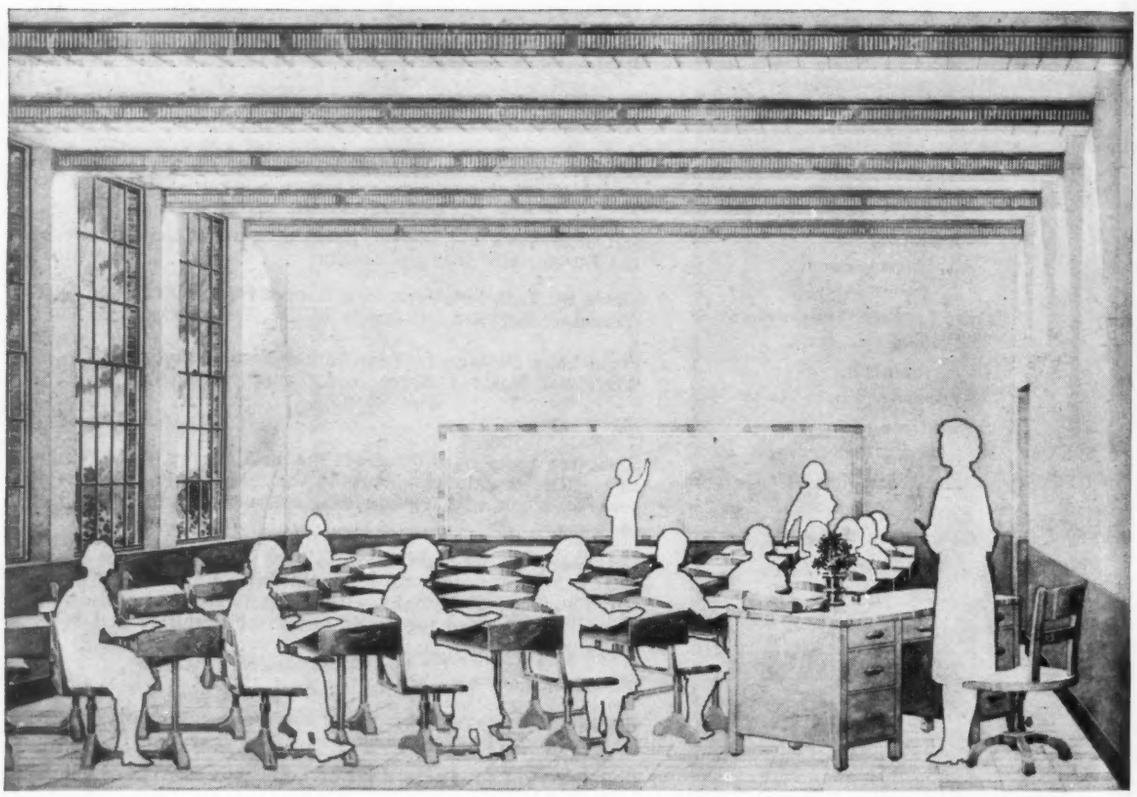
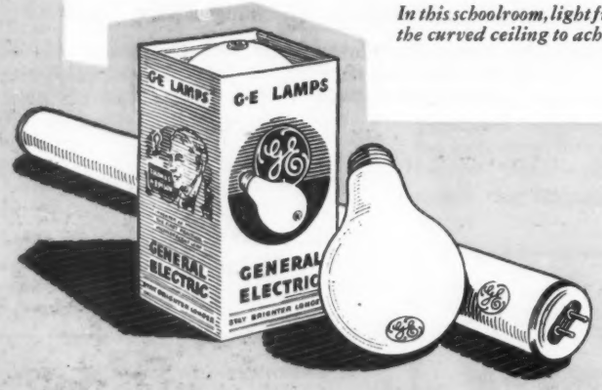
Arches of . . . for



Cross-section of one arch ...showing line of lighting units mounted on beam and reflecting arch built into ceiling.



In this schoolroom, light from G-E Fluorescent lamps not only goes down but is also reflected from the curved ceiling to achieve comfortable distribution, generous light, better seeing conditions.



THE CONSTANT AIM OF G-E LAMP RESEARCH IS TO MAKE G-E LAMPS

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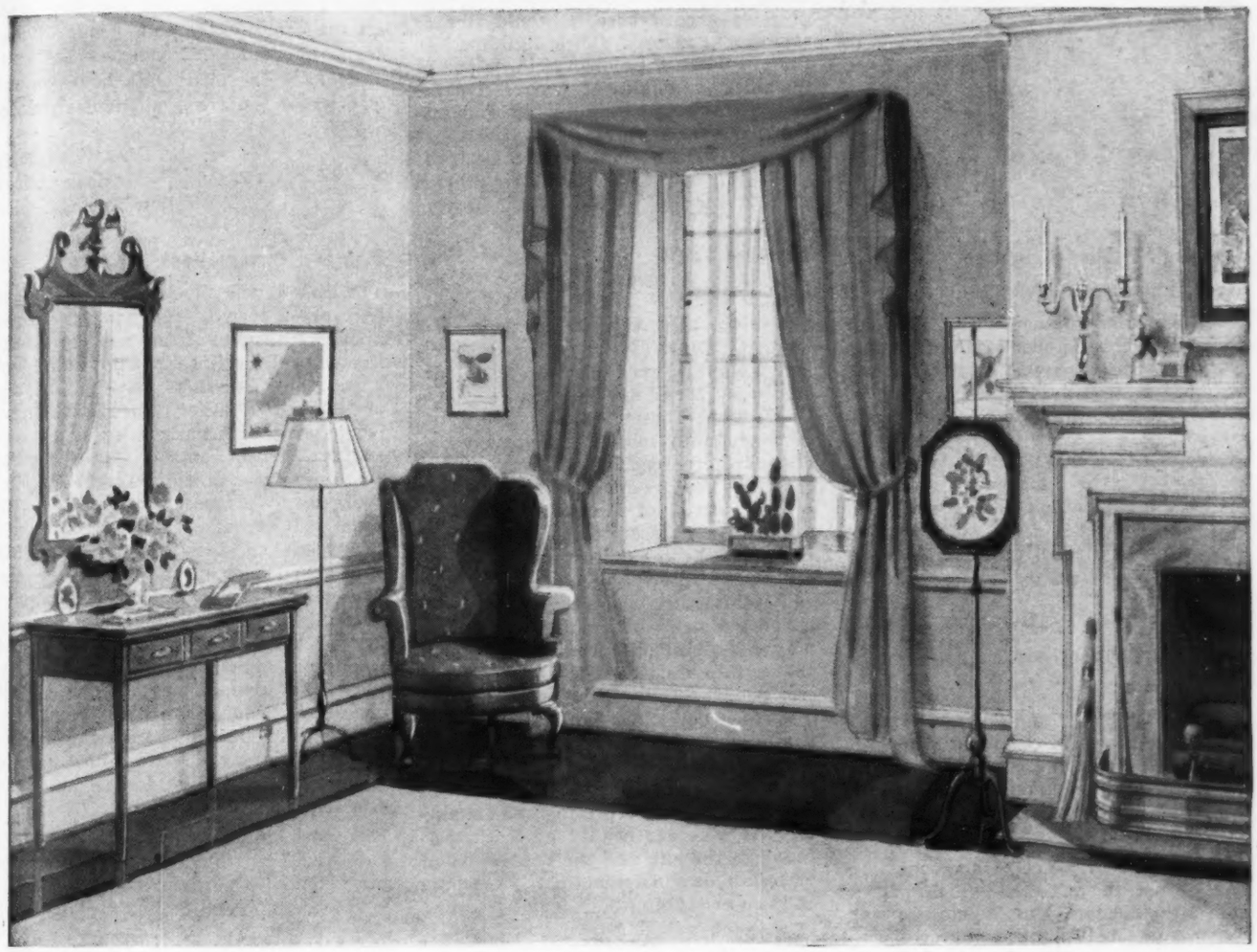
No investigation has been made by General Electric Company regarding the patent situation on the design or construction suggestions shown in this advertisement.

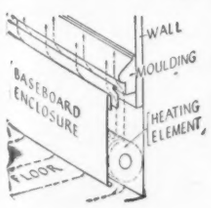
Where is the Radiator?



In developing *your* plans for the Home of Tomorrow, you can figure the Radiator "out of the picture"—for that is exactly where it belongs.

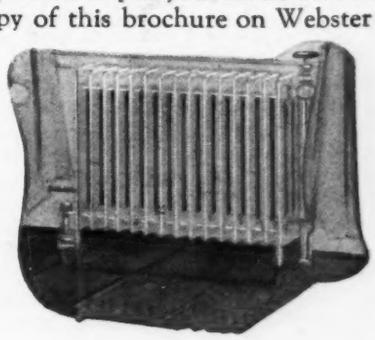
This new Webster Baseboard Heating reduces the "radiator" to something so small that it fits behind the baseboard—completely out of sight. Nothing to mar the beauty of the room or to limit your plans for interior decoration or furniture arrangement. (And the absence of radiators from the room adds considerably to the usable space.)

In this new Webster Baseboard Heating, the heating element—a copper tube around which are coiled fins of fine copper—runs behind the baseboard in a continuous line all around the exposed walls of the room. (Baseboard enclosure is removable for cleaning.)... The Webster Baseboard Unit supplies heat to the room using "forced" hot water. Air goes in at the floor line, passes over the heating element, is warmed and comes out at the top—a constant, even circulation.



No cold corners. No hot spots. No hot-or-cold levels. Tested installations of Webster Baseboard Heating show a variation of less than 2° from floor to ceiling.

Webster Baseboard Heating has been under development for several years and has met the most severe operational tests. It will be available to home owners and home builders when war conditions permit... A leading architect, collaborating with a noted interior decorator, is preparing a series of paintings showing application of Webster Baseboard Heating to different types of rooms. When completed, these paintings will be reproduced in full color. We will be pleased to put your name on the list to receive a copy of this brochure on Webster Baseboard Heating. **Write us today.** Dept. PA-12



Make this test: Cut out illustration of radiator at right. Place cut-out picture in position under window in the illustration above. See how the presence of a radiator in the room interrupts the whole scheme of decoration.

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Views

Opening "Public" Buildings

Dear Editor:

Your editorial "Remember to Plan for Safety" in the October issue of PENCIL POINTS I am sure will be helpful and will aid materially in the program to open public buildings to the handicapped.

C. HERRICK HAMMOND
Supervising Architect
Division of Architecture and Engineering
Springfield, Illinois

From the Gopher Hole

Dear Editor:

"Ceilings of light" and "window walls" . . . these things in the advertising section of PROGRESSIVE ARCHITECTURE-PENCIL POINTS sound wonderful to somebody like myself who worked for seven years in the gloaming.

I was a secretary not so long ago . . . one of six in an office which had a conventional plan. Our "general office" was a space between the line of executive offices (solid partitions) along the exterior wall and the public corridor at the interior of the building. We were but six among several millions similarly situated, working in the dark. No, not really dark, for we had 300-watt bulbs glaring down on us from the ceiling and, on our desks, 60-watt bulbs. "Enough light for anyone," they said. And yet I wonder, for new girls came into the office sans spectacles and after a few months joined the group with glasses at whom "men seldom make passes."

Then there was the heating problem. The radiators were in the executive offices. If the executives felt warm, their windows were opened and radiators turned off. Spectacles and electric heaters became standard equipment for us in the "general office."

So I look at plans for offices with a critical eye. In a recent issue of PROGRESSIVE ARCHITECTURE-PENCIL POINTS are photographs of executive offices for a publisher in Chicago. Here we go again—the secretary is right back in her gopher hole. Of course she has the advantage of walking down a beautiful corridor to her artificially-lighted desk. But it is still a gopher hole no matter how trickily lighted.

AUDREY M. MATHER
Detroit, Mich.

"One of the Finest"

Dear Editor:

Being an admirer and student of progressive architecture, I would like to say the "Proposed Office Building" in PENCIL POINTS, October 1945, is one of the finest examples of progressive architecture your enlightening publication has ever featured.

LEON WM. BYLLS, Designer
U. S. Naval Air Station
Richmond, Florida

The New Spirit

Dear Editor:

I have recently received the September issue of PENCIL POINTS with your excellent article describing the house designed by Mr. John Yeon in Northern California. Your statement that ". . . there are many subtleties of space which reward the perceptive observer . . ." is certainly true, as one readily finds from a consideration of the photographs presented. One is tempted to say that the house Mr. Yeon has here created represents one of the few occasions in American architecture where that groping for a "New Spirit" of architecture, which may be perceived fermenting beneath the surface of current design, has found expression. The fresh approach Mr. Yeon has developed for himself in the use of glass as transparent wall area, emphasized by lack of the conventional sill line, as well as ventilation; the rare achievement of interpreting and enhancing the inherent beauty of Nature as found in the site and the keen sense of materials demonstrated in the handling of the wood siding both inside and out, discernible even in the photographs, are but a few instances in point.

Equally as enlightening as the photographs is your thoughtful and appreciative appraisal of Mr. Yeon's work. The considered philosophy of design which permeates the entire article is in welcome contrast to the usual practice of appending brief, unconsidered, and usually completely erroneously flattering footnotes to photographs of buildings in most architectural magazines. It inspires one to wonder if it is not possible that the architectural profession might have the benefit of some organ of objective criticism and evaluation in the same spirit as *The Saturday Review of Literature* or the *New Yorker's* reviews of stage, literature, and cinema.

The spirit of organic architecture that Sullivan and Wright pioneered in developing, which has been so completely mistaken and degraded by the fetishism of sterile "functionalism" these past decades, may perhaps today, forty years later, come to light in a new native philosophy of architecture among at least some of the young designers. Any publication which, either by provocative articles or by free, objective criticism, aids in fermenting and developing this new spirit is doing the art a great service.

CLIFFORD B. HOLSER
1st Lt. C.E.

Consistencie's A Jewell

Dear Editor:

May I congratulate you and your staff on the consistently high grade of material published in PROGRESSIVE ARCHITECTURE! The California house in the September issue was particularly noteworthy.

MAX G. MERCER
Antioch College
Yellow Springs, Ohio

Montana Observations (Excerpt)

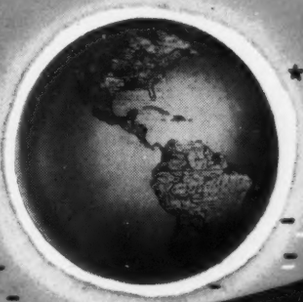
The little towns one passes through out here are a terrible commentary on the apparent absence of any need for seemliness or orderliness. The individual houses and buildings have no beauty of form or feeling of domesticity. There is no sense of arrangement or mutual support. Even on the main streets there are great gaps between buildings, overgrown with weeds and spotted with cans and garbage, like a mouth with two teeth missing at a time. Grain storage silos or elevators are the one fine element. They are great tall spare structures. In the smaller towns they are of wood with slanting roofs and wood penthouses with windows. In the larger towns they are rows of tall concrete cylinders with towers. Very fine. But you don't remember the towns very long. The essence of it is the golden grain landscape, and the dun-colored grazing land.

The most civilized of the little towns I saw was Lewiston near which we have an airbase. Its main street is fairly well built up, and it has two rows of somewhat over-pretentious lamp posts with clusters of four lights. But they do give it some sense of form and shape. Shows how little you have to do to get some feeling of distinction and humane arrangement.

There was one great exception, one town that was really cheery and pleasant. In the eastern part of the State the U. S. Government has been building the Fort Peck Dam across the Missouri River for flood control and power development—a great earth dam over a mile across. In connection with it they have built the village of Fort Peck, and a great credit it is to them. It was late when I was there and I spent most of my time at the dam, so didn't have much time to study the plan as such. But the whole feeling of this village was friendly and orderly. There were trees planted and there were lawns and flowers. Views had been taken advantage of. The houses weren't piled into each other at one point, and then 150 feet apart a few steps away. Most of the houses and public buildings were natural weathered wood, many of them gaily trimmed in reds and greens—a few like the theater with an exterior mural.

It illustrated two things that I've so often seen and felt. First, that decent humane planning should, and here did

(Continued on page 10)



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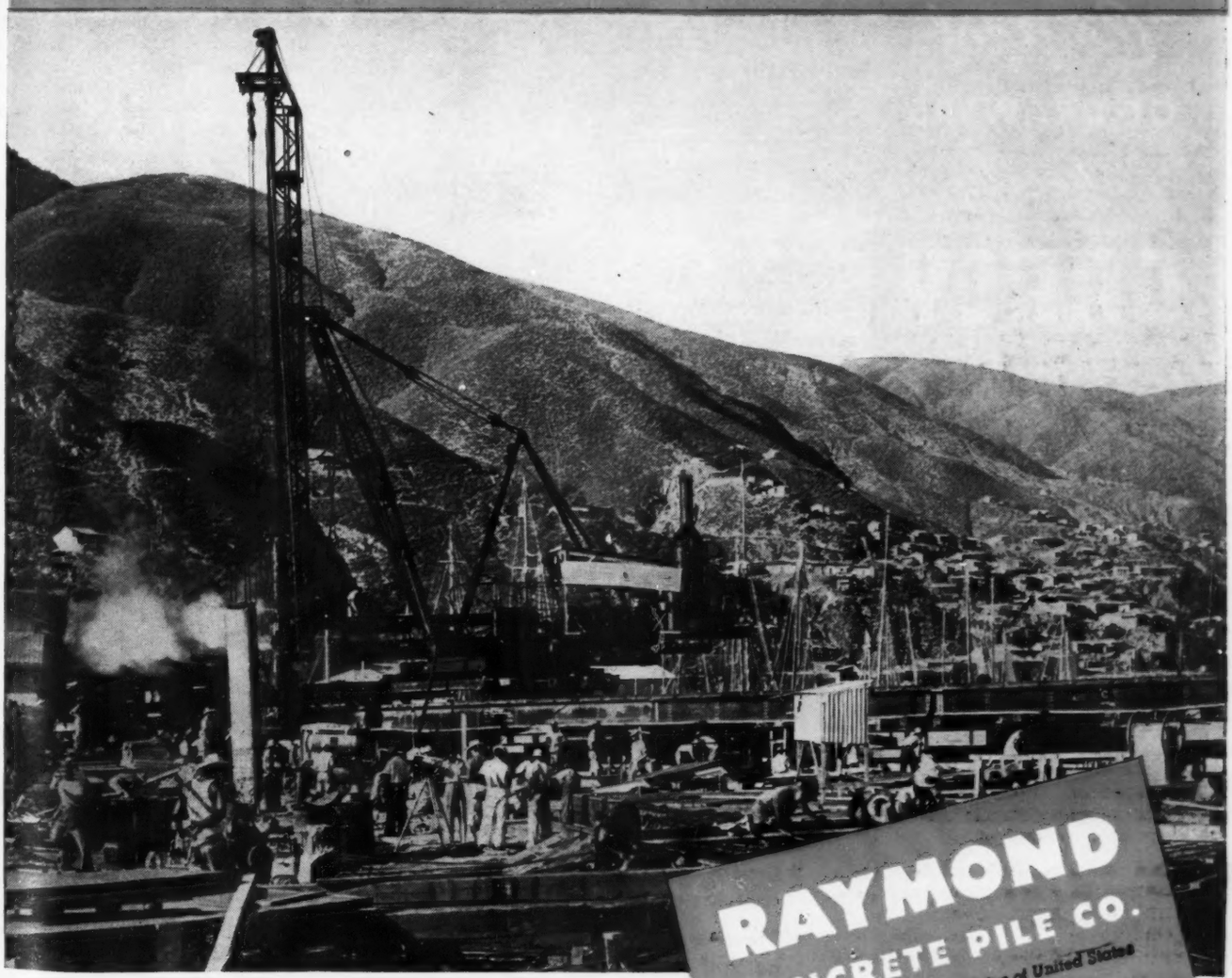
Wharf at La Guaira, Venezuela



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Views

(Continued from page 8)

express itself into the simple details—you didn't have to be told—as in so many housing projects for example you do—that this was good planning and living because so and so and so—you felt it the moment you saw it, you felt pleased and happy. You had a sort of journey's end feeling. The second thing about it was that you didn't feel awed, you didn't feel the hand of genius. You did feel that someone or some group had taken an interest, had taken pains, had devoted themselves with affection and without stint to this undertaking. It was a skilful job too, but not a breath-taking one. You feel the touch of any epoch-making architecture. You felt that almost anyone with some skill and much good will could have done it. This part of it is hopeful. The part that is so hopeless is this: if such achievement doesn't require a superman to do it but can be done by fairly ordinary people of good will, why in Heaven's name is it so rare?

MAJ. ALBERT MAYER
Somewhere in CBI

THEY SAID—AND WE QUOTE:

Just as isolationism has been discarded in the world of international relationships, so public opinion is abandoning the tradition of individual building isolationism. This attitude brings into sharper focus the services which the architect is rendering and which concern themselves with experienced and impartial advice on every phase of good community planning as well as project design and construction.

Perry Coke Smith
President, N.Y. Chapter A.I.A.

All things considered, it seems both undesirable and financially impracticable to build new housing so that low-wage groups can live near the business centers of large cities. If it is advantageous for a worker to walk to his job we might study all the advantages and disadvantages of locating industries in small towns and villages with housing built close to the plant, separated only by a shopping center. Not all industries are detrimental to the appearance of the neighborhood. The industries can be located beside railroad or tracking facilities and the shopping center can be located between the industries and the residential district. Still further, beyond the residential district, fields and woods would be available for recreation. Workers could then walk home to lunch or could buy lunch and do other shopping in the shopping center. Some small spaces might be left for planting and for parking spaces for those who had to come from a distance. Fences or hedges could screen and protect any disorderly storage yards. The recreation fields and woods, on the opposite side of the housing from the industries and shopping center, might extend into the housing by narrow strips, reaching, perhaps, the school and church centers.

Charles W. Killam
Bay State Architect, July 1945

"Architects and builders will be confronted with many new demands from the public. Technological advances accelerated by the war will affect the design and construction of homes and all other structures in the postwar era. Prospective home-owners, in particular, are not going to be satisfied with 'just houses,'—any sort of standardized, 'jerry-built' structures. They will want their homes to express their personalities and individualism—and they are not going to be satisfied with less than the latest in construction materials, appliances, and equipment."

James R. Edmunds,
President of A.I.A.

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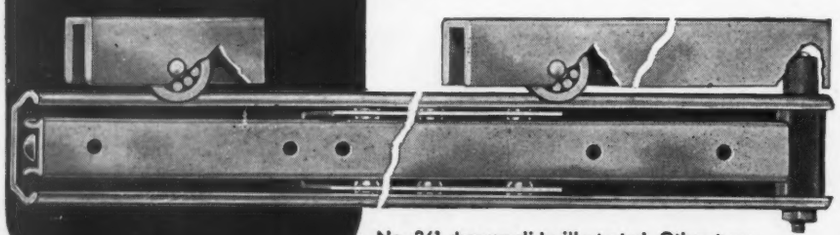

No. 361 drawer slide illustrated. Other types available for every drawer or shelf slide-out problem.

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- Ball bearing action...smooth and quiet.
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- Drawers pull out all the way. All contents easily reached.
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ADEQUATE FOR TOMORROW'S NEEDS

...Until the Kids are off to School!

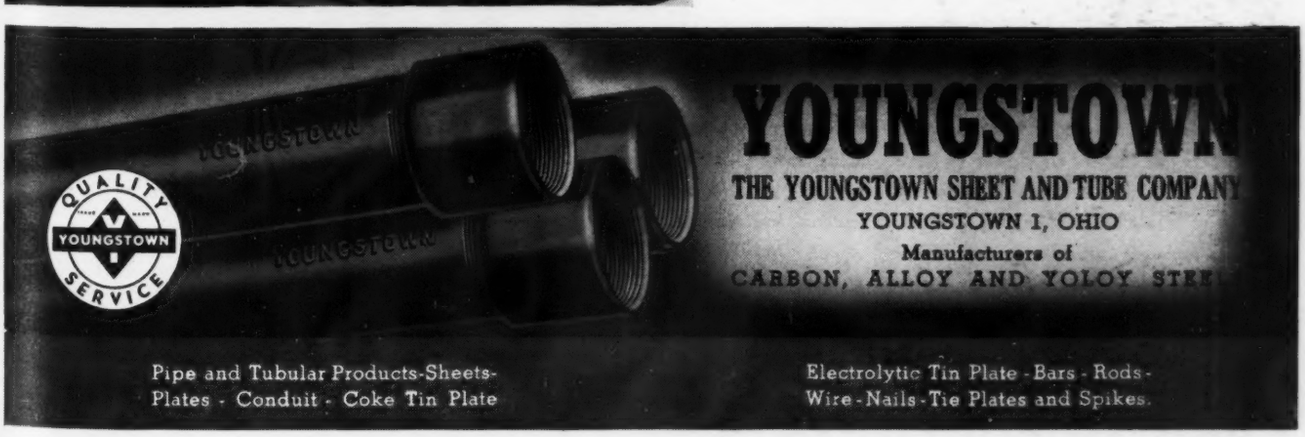
WASHDAYS and schooldays just don't mix in this could-be happy home. Time's a-wastin' when Mother can't start the wash until the kids are scrubbed for school.

It's not the kids' fault. They'd gladly skip the "wash-behind-the-ears," tooth-brushing routine. It's the fault of the guy who built the house and decided that old-fashioned, small-diameter piping "would do" to furnish the family's water supply.

This is not the only home with water-shortage a daily domestic dilemma. There are millions of such houses where there is a lack of freely flowing water even for normal purposes. As for those houses where the family wants to add another bathroom, shower or lavatory--well, there just isn't a chance.

But there's a solution to this problem for the millions of new homes now in the "blue-print" stage, and the many old homes preparing for modernization. You'll find the answer in steel pipes of larger diameter that guarantee an adequate supply of freely flowing water to every outlet in the house. And because city water pressures are constant--steel pipe of larger diameter is an absolute guarantee of a plentiful water supply for your individual needs. Don't forget that those automatic laundries, dishwashers and garbage disposal units, lawn sprinklers, extra lavatories and showers your clients will want, depend on plenty of water for efficient operation.

Do your part to give Mother and the kids what they want. Adequately sized steel pipe will supply all the water they need--when they need it--where they need it.



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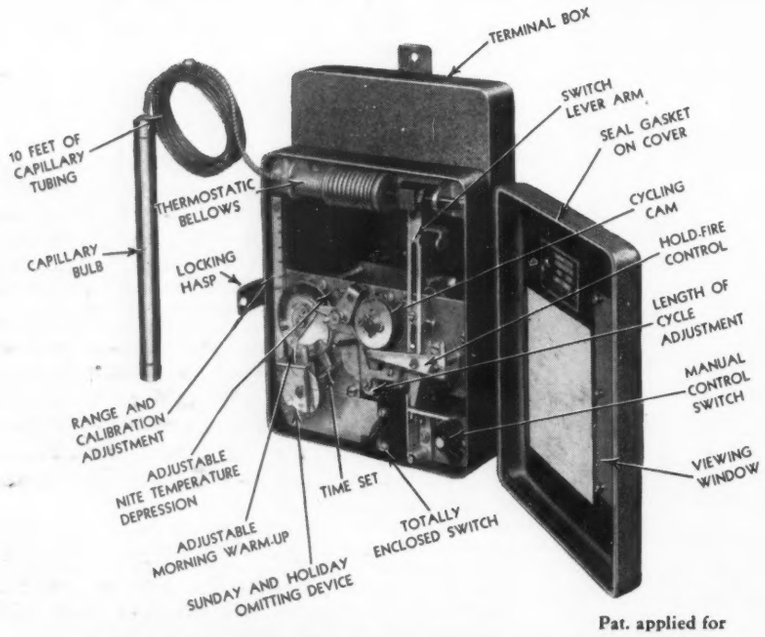
MAXIMUM FUEL SAVINGS



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ARCHITECTURAL DESIGNER. To work in Chicago. Experience in design and construction required. Salary proportionate. Interesting diversity of problems to proper man. Shaw Naess & Murphy, 80 E. Jackson Blvd., Chicago, Ill.

EXPERIENCED DRAFTSMAN wanted by California store designing firm. Man competent in architectural working drawings, detailing of store fixtures and store fronts. Permanent position with good salary. Gruen and Krummeck, 1424 North Kings Road, Hollywood 46, Calif.

ARCHITECTURAL DESIGNER DRAFTSMAN for possible permanent employment. Write in confidence giving age, experience, capability, minimum salary, and availability. Small office, pleasant working conditions, delightful climate. Jesse Cunningham, Architect, Florida National Bank Bldg., St. Petersburg, Fla.

ARCHITECTURAL DRAFTSMEN, capable of developing working drawings and details for schools, hospitals, and public buildings. Permanent for men who qualify. Give all details of training, experience, and salary required in first letter. Jos. W. Radotinsky, Architect-Engineer, 312 Commercial National Bank Bldg., Kansas City, Kans.

SEVERAL ARCHITECTURAL DRAFTSMEN, thoroughly experienced, able to prepare preliminaries, working drawings, etc., familiar all phases architectural drafting. Must think, draw, along modern trend. Work on postwar theaters and diversified projects. Excellent opportunity for permanent position. Write education, experience, salary, to M. J. DeAngelis, R.A., 1404-1405 Temple Bldg., Rochester, N. Y.

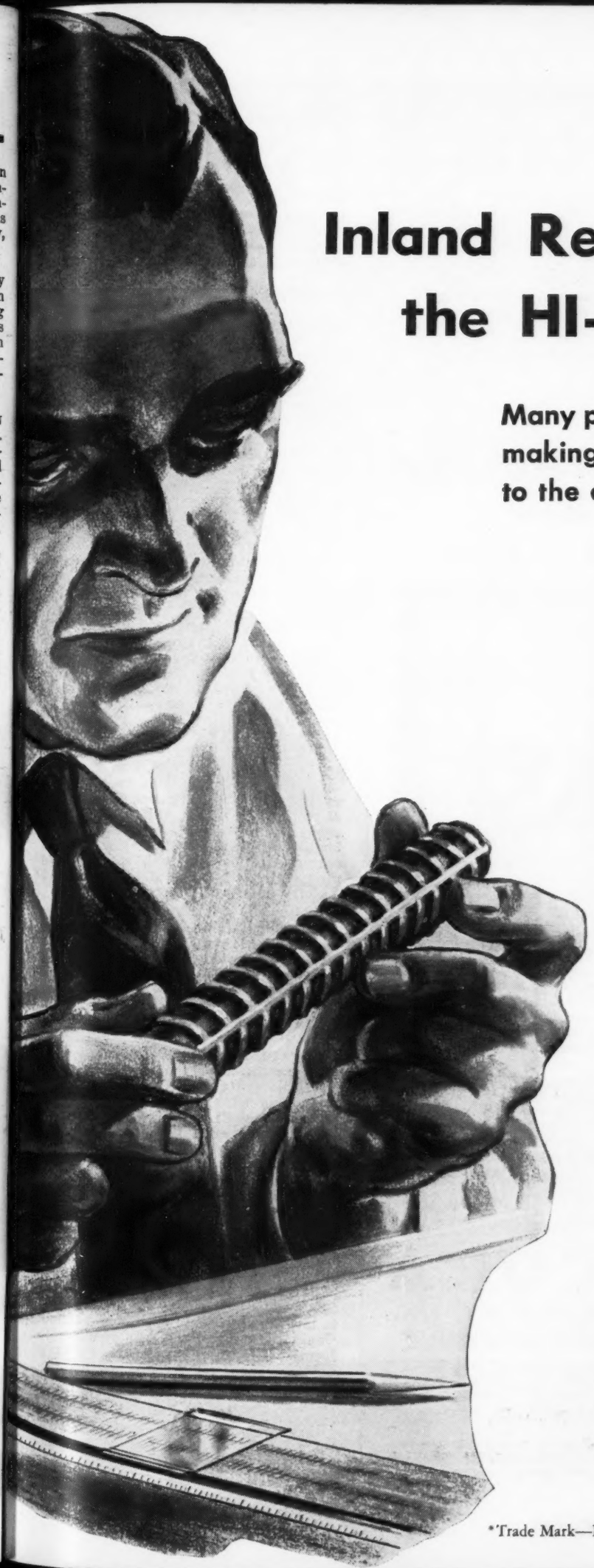
EXPERIENCED ARCHITECTURAL DRAFTSMEN. Permanent openings in long established architectural office. Salary commensurate with ability. H. O. Fullerton, 152 Washington Ave., Albany 6, N. Y.

ARCHITECT for full time position at Candlewood Shores, Lake Candlewood, Danbury, Conn. Work consists of preparation of plans and specifications, overseeing construction on year-round and seasonal homes. Good pay to start, unlimited opportunity for advancement. Call or write Reynolds Bros., 87 West Street, Danbury, Conn. Phone Danbury 2240 or 1563-4.

ARCHITECTURAL DRAFTSMAN, small office, excellent prospects for man thoroughly experienced in schools and public buildings. Give full particulars, age, education, and experience. Norman Hatton, A.I.A., 631 Higley Building, Cedar Rapids, Iowa.

STRUCTURAL ENGINEER, also able to do architectural drafting. Commission basis on engineering work involved and hourly rate on architectural drafting. Drawing account. Interesting South Florida work, hotels, stores, apartment buildings, and high-class residences. Send photograph with qualifications to Macneir, Dykema & Zannoth, Fort Lauderdale, Fla.

(Continued on page 14)



Inland Research Creates the HI-BOND* Re-Bar

Many practical difficulties overcome in making an outstanding contribution to the construction industry

Inland research actually scored twice in developing the HI-BOND Reinforcing Bar — first in designing a deformed bar of extremely high bond value, and equally important in developing steel mill rolls for efficient and accurate production.

Inland engineers, with long experience in construction, knew that there was need for a better reinforcing bar. After years of study a design was created, but it presented a number of problems before it could be rolled successfully. In fact, there were those who said it was impractical to roll. That was a challenge to Inland roll designers and mill men. After studies of the problems, rolls were cut and billets were formed into HI-BOND Bars—bars that were true to design and accurate—bars that could be rolled in any quantity, restricted only by wartime conditions.

The HI-BOND Bar is another example of how Inland research develops and makes available new steel mill products—products that do a better job—products that often save steel and cut labor costs.

Inland has prepared a booklet, "Engineering Tests Prove Bonding Strength of HI-BOND Reinforcing Bar." Write for your copy! Inland Steel Company, 38 S. Dearborn St., Chicago 3, Ill. *Sales Offices:* Cincinnati, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul.

Principal products: Sheets, Strip, Tin Plate, Bars, Plates, Floor Plates, Structurals, Piling, Rails, Track Accessories, Reinforcing Bars.

HI-BOND
REINFORCING BARS

*Trade Mark—Reg. U. S. Pat. Off.

Views

(Continued from page 12)

CHIEF DRAFTSMAN, complete charge of twenty-five men. Qualified as designer, delineator, and in all phases of construction. ARCHITECTURAL DESIGNER-DELINEATOR, well versed in all types of delineation. FOUR DRAFTSMEN, experienced in all types of construction. Handling work from sketches through working drawings. Leo A. Daly Co., 629 Insurance Bldg., Omaha, Neb.

DESIGNER for rendering perspective colored sketches for redecorating churches, public auditoriums. Complete knowledge Catholic art, to plan layouts. Prefer combination man who can also take measurements, estimates, close sales, supervise. Reliable firm, Illinois city. Advise experience, starting salary, religion, snapshot, phone, reference. Box 201, PROGRESSIVE ARCHITECTURE.

ASSOCIATE desired immediately. Graduate architect or draftsman, not over forty. Offering full partnership. Fine general practice, 25 years. Excellent future. Midwest location. Box 204, PROGRESSIVE ARCHITECTURE.

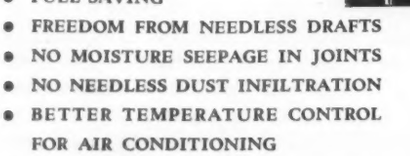
Weather-Protection

IN CONCENTRATED FORM

FOR EVERY TYPE OF BUILDING

Whether used in a modest home, an imposing public building or a vast industrial plant—in fact every type of building—Pecora Calking Compound can be relied upon for dependable weather-protection. By sealing all joints around window and door frames and by pointing up masonry with Pecora Calking Compound, you are assured of these six important benefits:

- FUEL SAVING
- FREEDOM FROM NEEDLESS DRAFTS
- NO MOISTURE SEEPAGE IN JOINTS
- NO NEEDLESS DUST INFILTRATION
- BETTER TEMPERATURE CONTROL FOR AIR CONDITIONING
- BETTER OCCUPANCY CONDITIONS



Time-tested for 37 years, Pecora Calking Compound is impervious to heat, cold and moisture, or acid fumes. It remains permanently elastic beneath its tough outer skin, for when properly applied, it will not dry out, crack or chip. Adheres to stone, glass, metal and wood and adjusts itself to variations in expansion and contraction. Available in knife grade and gun grade in standard and special colors. Knife grade packed 25 to 900 lbs. Gun grade in 1 to 55 gal. containers.

See SWEET'S for suggested specifications, or write us for descriptive folders and detailed information.

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CONSULTING ENGINEERS, steel concrete design. Plumbing, heating, ventilating, and air conditioning. Bar detailing, public works, plant layout, etc. Hourly, tonnage, or fee basis. Box 205, PROGRESSIVE ARCHITECTURE.

DRAFTSMEN, architectural preferred, for new commercial buildings, alterations, and equipment layouts. State experience. Permanent. Box 211, PROGRESSIVE ARCHITECTURE.

SITUATIONS WANTED

ARCHITECTURAL DESIGNER AND DRAFTSMAN. Age 39. 15 years' experience, public buildings, housing, industrial; preparing sketches and working drawings, checking shop drawings. Desires position with opportunity. Box 200, PROGRESSIVE ARCHITECTURE.

ARCHITECTS-ENGINEERS. A Blueprint Co-operative Plant in your vicinity can produce blueprints at enormous savings. Man 40 years old, 20 years' blueprinting experience will assume responsibility. Small investment by members voluntary, to assure patronage; otherwise, personal pledges sufficient. For further information write Box 202, PROGRESSIVE ARCHITECTURE.

ARCHITECT, thoroughly experienced, wishes partnership with established architect. Will consider any location but prefer the West or Southwest. Experienced in all branches of architectural work. Good designer. Registered in five States. Box 203, PROGRESSIVE ARCHITECTURE.

DESIGNER-DRAFTSMAN, B.S. in Architectural Engineering, M.S. in Architecture, studied with world-famous modern architect, three and a half years of responsible office experience, taught architecture in Mexican university, desires permanent position with a future in progressive office. Box 206, PROGRESSIVE ARCHITECTURE.

ARCHITECT, 37, recently released Marine officer, registered architect in Massachusetts, desires position leading to partnership in Northeast, Northern Middlewest, or Northwest. Ten years' varied architectural experience. Box 207, PROGRESSIVE ARCHITECTURE.

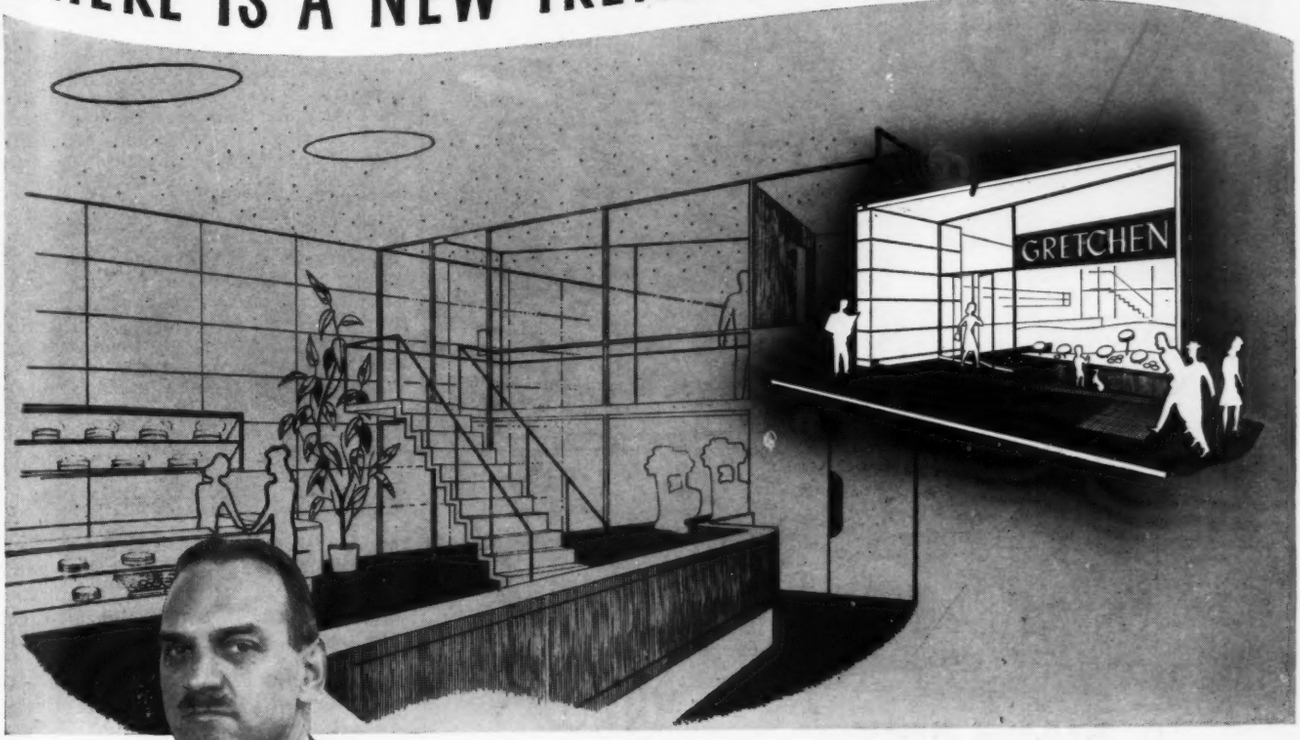
GRADUATE ARCHITECT, 28, structural and architectural office experience. Versatile draftsman, designer. Desires connection with small or medium-sized architectural firm doing modern work. Box 208, PROGRESSIVE ARCHITECTURE.

DRAFTSMAN, two years' experience, six years' schooling. Capable of reading blueprints and working from master layouts. Desires position with an architectural or drafting office. Box 209, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN, DESIGNER, STRUCTURAL ENGINEER, CONSTRUCTION SUPERVISOR, experienced in residential to large institutional type construction. Capable of handling either size job from conception through working drawings and supervision to completion. Now a Naval officer expecting release Jan. 1. Inquiries regarding experience and capabilities invited. Box 210, PROGRESSIVE ARCHITECTURE.

(Continued on page 16)

THERE IS A NEW TREND IN STORE DESIGN



Harvey Parke Clark

HERVEY PARKE CLARK'S conception of a Bakery

"The conception of this small production and sales unit is based on the assumption that seeing ideal working and sanitary conditions is an exciting experience for the customer and, therefore, good merchandising for the owner. The sales area is separated from the street by a transparent film (glass) which serves to keep the climate temperate and the air clean inside the store. A similar film divides the working area at the rear from the sales area in the front and confines odors and temperature differentials to the production area —yet customers and manager can readily view all the baking processes.

"The store front is transparent and, both day and night, clearly displays the freshly baked specialties in the shop window as well as affording a full view of the shop's interior. The entire glazed front is set in members of Pittco Store Front Metal.

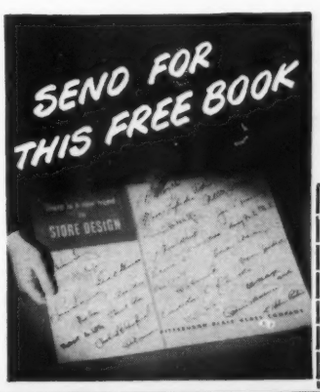
"Inside, the walls of ivory Carrara Glass form a colorful and sanitary background for the sale of bakery products. The mirrored backs of the display cases on the walls instantly show the customer all sides of the cake or pastry she is about to buy. Ivory Carrara Glass walls carry through into the bakeshop where they form a spotless background for production, where cleanliness is essential."

HERVEY PARKE CLARK,
Architect

In creating modern store fronts and interiors of distinction, you can rely upon the high quality and the adaptability of Pittsburgh Glass and Pittco Store Front Metal to help you execute your designs with striking success.

In 21 leading retail magazines, Pittsburgh Plate Glass Company is urging merchants to consult their architects, to modernize their stores *now*. Prompt, helpful service – is provided by our national organization of branches and dealers. If desired, convenient terms can be arranged on the Pittsburgh Time Payment Plan.

"PITTSBURGH"
stands for Quality Glass and Paint



It contains 41 designs, submitted by leading architects, for stores, restaurants, service stations, theaters, etc. Every architect, designer and student will want to own this up-to-date reference book of ideas for building or modernizing retail stores. Send the coupon for your free copy of "There is a New Trend in Store Design." It will be sent to you promptly.

Pittsburgh Plate Glass Company
3035-5 Grant Building, Pittsburgh 19, Pa.
Please send me, without obligation, a free copy of the book, "There is a New Trend in Store Design."

Name_____

Address_____

City_____ State_____

PITTSBURGH PLATE GLASS COMPANY
PRODUCTS FOR STORE FRONTS AND INTERIORS

...with **GIANT SIZE** dates

Each numeral 1¾" high—that's the feature of this beautiful new six-color POST 1946 Calendar—overall size 12"x20". Each date of the week is designed to be legible from any spot in the drafting room. The entire current month with ultimate and proximate months appear on each weekly page. The calendar is in full, brilliant color and includes a section devoted to significant drafting room data, covering charts on wire and sheet metal gages, screw threads, bolt heads, pipe and pipe fittings, gears, metric equivalent, and complete twelve-month calendar.

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Request for FREE 1946 Calendar.

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Views

(Continued from page 14)

ARCHITECTURAL PLANNER AND DESIGNER, principally on commercial work, stores and store interiors, residential, alterations, able to sketch in perspective. Box 212, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER, age 35, with ten years' experience under present employer in all phases of building design wishes to locate permanently in Southern California or a modern Central or South American city. Bachelor's and Master's degrees in engineering from Harvard University. Competent in concrete, steel and wood design, and field work. Box 213, PROGRESSIVE ARCHITECTURE.

NOTICES

D. A. NEWTON has joined the F. J. EVANS ENGINEERING COMPANY, Birmingham, Ala., as air-conditioning engineer of the heating and air-conditioning division.

A. P. TEDESCO, noted American book designer, will join Grosset & Dunlap as art director. He started his publishing career under the aegis of W. A. DWIGGINS and the late D. B. UPDIKE of Merrymount Press, and since then, as art director of Doubleday, Doran, Inc., has blazed many new trails in book design.

LEO STILLMAN, Architect, is now located at 332 E. 149th St., New York 51, N. Y.

LEO V. BERGER, Architect and Engineer, has moved to 356 Fulton St., Brooklyn, N. Y.

ROBERT S. LONEY, Major AUS, has just received his discharge after serving three and a half years in the Army. He announces the opening of an office at 2518 N. Columbus St., Arlington, Va., for general practice in architecture, with emphasis on residential work.

I. WM. RICCIUTI announces his return to the practice of architecture with offices in the Queen & Crescent Building, New Orleans 12, La.

HERMAN H. FELDSTEIN announces the reopening of his offices for the practice of architecture, engineering, and industrial design, 305-307 Spitzer Building, Toledo, Ohio.

EUGENE JOHN STERN has established an office in Mexico City under the title of Stern De Mexico, S. de R. L., S. Juan de Letran 21-914, Mexico, D. F.

HAROLD T. ENGLISH, KEN G. MILLER, AND RAY L. HOCKETT announce their association for the general practice of architecture and engineering under the firm name of ENGLISH, MILLER & HOCKETT, with offices at 206 Woolworth Building, Hutchinson, Kans.

Magic Chef

ANNOUNCES A GAS RANGE DESIGN COMPETITION

with $18,000 in Cash Awards

FOR THE BEST DESIGNED GAS RANGE OF TOMORROW

Grand Award	**$5,000**
Second Award	**$3,000**
Third Award	**$2,000**

Fourth, fifth and sixth winners will each receive award of $1,000. The next 10 contestants will each receive award of $500. Contest ends midnight March 4, 1946.

Send the coupon and we'll send you this book of rules

Competition open to

ARCHITECTS • ENGINEERS • ARTISTS
DRAFTSMEN • STUDENTS AND OTHERS

with the exception of employees of the American Stove Company, and its subsidiaries, The Architectural Forum, and advertising agencies which serve the American Stove Company and its subsidiaries, and the families of all such employees, or employees of other range manufacturers.

Magic Chef
GAS RANGE DESIGN COMPETITION

SPONSORED BY THE ARCHITECTURAL FORUM 350 Fifth Ave., New York 1, N. Y.

WINNERS WILL BE NATIONALLY PUBLICIZED

GEORGE NELSON, A.I.A., Professional Adviser, c/o The Architectural Forum, Dept. P, Empire State Building, 350 Fifth Ave., New York 1, N. Y.

I intend to enter the Magic Chef Design competition. Please send me the program, including the conditions governing the competition and awards.

Name_____

Firm (if any)_____

Address_____

City_____ State_____

Check one: Architect____ Designer____ Draftsman____ Student____

Other Occupation_____

News

Display of airplanes for sale as a department store item has been duly noted as evidence of the dizzying pace set in merchandising for the postwar era—but when it comes to selling Cape Cod Cottages over the counter, we are not so sure.

A scale model of a $3,000 to $7,000 48-piece clapboard and shingle house went on exhibition last month at one or two department stores in New York. The manufacturer, Anchorage Homes, Inc., claims to "take a cue from the automobile industry ... in the factory with assembly-line speed."

In assembly tests five men have set up one of these houses in four hours, leaving inside finish to another crew which could have it ready for occupancy within a few days. We read that the prefabricated units include side walls, complete with shingles and windows, already insulated and wired for electricity. Floors are lowered into place already waxed and polished. Roof sections come already shingled. The purchase price even includes wallpaper in "all the New England Colonial versions you can imagine." There is a furnace to blow hot or cold according to the season and an electric range for the kitchen.

But the home builder can expect the familiar "extras." First on the list is the family hearth—which is *not* included in the purchase price. So this isn't quite the typical Early American home after all.

Results of wartime research by building and equipment engineers, new products offered by leading manufacturers, and other displays comprising a cross-section of the immediate postwar building material market are to be exhibited February 25-28 at the Stevens Hotel, Chicago, in a National Association of Home Builders Exposition.

Scheduled as an attraction of the annual convention of N.A.H.B., the show will not be open to the public, it has been announced by Paul S. Van Auken, convention and exposition director. A large attendance is anticipated at the four-day meeting, for which the program keynote will be "giving home owners more house for their money."

War work of architects, painters, landscape designers, and sculptors was displayed last month at the Architectural League of New York as the first show of a series planned to dramatize Contributions of Allied Arts to America.

Definition of working relations between the National Housing Agency and the new Construction Division in the Department of Commerce is found in an accord signed recently by Secretary Wallace and NHA Administrator Blandford.

In setting up a working liaison between the two organizations, to avoid duplication of effort, it was agreed that NHA "is concerned with the development of adequate information as a guide to policy formation in the field of housing and as a service to the residential building and financing industries as well as local officials dealing directly with housing." The Construction Division "is concerned with the role the construction industry plays in the nation's economy and in reaching a high level of productive employment . . . development and improvement of the basic measures of construction activity . . . to synthesize information from several government agencies and a variety of private sources, in order to build up an adequate over-all picture of the construction industry."

To promote coordination of the Construction Industry, L. C. Hart as president of the Producers' Council has pledged "full support to the formation of local industry groups to meet this need."

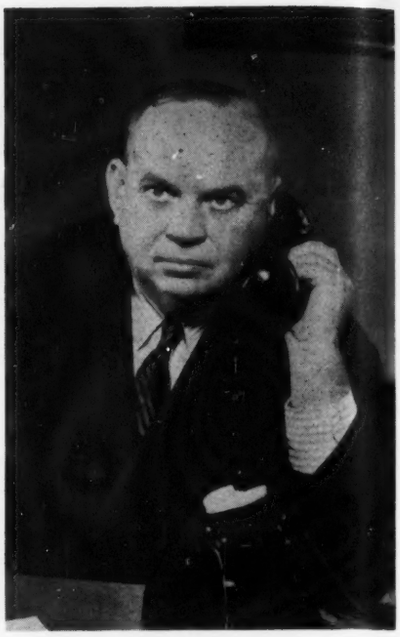
Following a three-day meeting of the Producers' Council in Cleveland, Hart voiced immediate concern for "complete cooperation of all industry factors ... if we are to avoid inflation in the prices of homes and other building during the period when the demand for new structures exceeds the supply." He added that responsibility for avoiding inflation is "up to the industry and the public.

"Local industry groups also can help to prevent or eliminate shortages of skilled labor which might retard construction activity locally, and they can anticipate building product shortages which would delay construction," Hart predicted.

The recent formation of the Construction Industry Advisory Council, at a meeting called in Washington by the United States Chamber of Commerce, was cited at the Producers' Council meeting as evidence that organization of the industry has been started. Nearly 100 trade and professional groups are represented on the Council.

Jurors for the $18,000 Magic Chef Gas Range Design competition, sponsored by the Architectural Forum for the American Stove Company, have been announced.

Sixteen prize winners will be selected by Edward D. Stone, Peter Schladermundt, and Elaine Knowles, all of New York; Samuel A. Marx, of Chicago; and Gardner Dailey, of San Francisco. George Nelson, A.I.A., is the professional adviser.



Jesse E. Stanton

Successor to George Howe as PBA Deputy Commissioner for Design and Construction will be Jesse E. Stanton, PBA Division Engineer in San Francisco. Known as a tactful and able administrator, as well as a successful California architect, he joined PBA in 1941 as consulting architect on the program to expedite war housing. He has been a champion of use of color in architecture and also is an authority on ceramics.

When Howe asked to be relieved of his PBA duties because of ill health, it was revealed that he will write a book on modern architecture and, when stronger, may head a Philadelphia architecture and engineering firm. Tribute to his valuable contributions as a PBA official was paid by W. E. Reynolds, Commissioner of Public Buildings.

In a positive program to improve the design of everyday objects, the Museum of Modern Art announces it will start in 1946 to give three annual awards for best designs, will initiate publication of a catalog of available consumer goods that can be recommended for design excellence, and will authorize manufacturers of approved products to stamp them with the seal of the Museum's approval.

Any mass-produced object from a tractor to a toothbrush may be chosen for one of the three prizes to be given by the Museum's Department of Industrial Design, it was explained by Eliot Noyes, department director. The awards will be made for the first time next fall, when the first issue of the catalog of approved everyday objects will be published in a large edition. It will not be possible to buy space in the catalog and those manufacturers whose products are chosen for inclusion will not be charged. New York exhibitions and cir-

(Continued on page 24)

Specify Tile-Tex Asphalt Tile for Houses of Worship

Tile-Tex Asphalt Tile in St. Antonins R. C. Church, Newark, New Jersey.

Churches and religious institutions are ready to go ahead with a large program of modernization and new building. As an architect, you are probably already busy preparing plans and specifications for church building projects.

Tile-Tex Asphalt Tile Flooring is peculiarly fitted to answer the special requirements for church floor areas. Such floors must be long wearing, able to perform satisfactorily on concrete subfloors which are below grade, be available in attractive yet dignified colors and patterns, quiet under foot, and reasonable enough to fit lean budgets. During the past twenty years, Tile-Tex Asphalt Tile has proved beyond any reasonable doubt that it meets these exacting requirements. Churchmen know Tile-Tex Asphalt Tile and have faith in the product and the company that manufactures it.

We should be happy to work with you in supplying data that will help you in preparing your floor specifications for your church clients, or the approved Tile-Tex contractor in your city will be glad to submit samples and estimates on projects on which you may now be working.

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A list of outstanding installations of Tile-Tex Asphalt Tile in churches will be sent any architect on request.

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THE TILE-TEX COMPANY, Inc.

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TRACING CLOTHS
AMERICA'S STANDARD FOR OVER 20 YEARS

News

(Continued from page 22)

culating shows of the best designed objects will be arranged at the same time.

Recalling the Museum's series of exhibitions of Useful Objects, dating from 1938, Noyes defined the purpose of the new program as expansion of the Useful Objects shows to a national scale and broader range of selection. He added: "As the Useful Objects shows have supplied our New York public with a guide to well-designed objects recommended for purchase, so our new three-way program—catalog, seals, awards—will provide a nation-wide picture of articles of everyday use which have been carefully selected as outstanding examples of good modern design. We hope the public will use this catalog as a purchasing guide."

Temporary war housing owned by FPHA will be converted into peacetime buildings of many types when they are no longer needed for the demobilization emergency.

A check of inquiries received in Washington and FPHA regional offices, since it was announced that approximately 300,000 temporary buildings will be put up for sale after a demonstration of conversion ideas, January 12 through February 9 on a 20-acre rural site just across the D. C. line, reveals interest among civic organizations, farmers, churches, and schools, as well as contractors and material dealers.

To provide housing for distressed families of veterans and servicemen, FPHA has already transferred to colleges, universities, and municipalities a total of 3,527 trailers and temporary dwelling units, according to FPHA Commissioner Philip M. Klutznick. This conversion was authorized in June by an amendment to the Lanham Act.

Alvar Aalto, internationally known Finnish architect, has rejoined the faculty of the School of Architecture and Planning at the Massachusetts Institute of Technology for the fall term. Aalto was a member of the staff at M.I.T. in the fall of 1940, when he returned to Finland to direct the national reconstruction program.

ElRoy Nelson will assume the position of Director of the Tri-County Regional Planning Commission. He succeeds **Ira J. Bach**, who resigned to accept the position of Director of Planning of the Chicago Housing Authority. Nelson was formerly director of the Colorado State Planning Commission, and later was employed by Kaiser Industries, Inc., as research analyst.

(Continued on page 26)

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Long, Long Life

Because of the efficiency of design embodied in Truscon "Ferrobord" Steeldeck Roofs, and the exceptional quality of their materials, they offer unusual opportunities to secure economical, long-lasting, dependable roof construction.

Truscon "Ferrobord" Steeldeck Roofs are particularly adaptable to theatres, gymnasiums, schools, auditoriums, public halls and industrial buildings requiring large areas free from supports and obstructions.

Truscon Steeldeck has the advantages of being light in weight and fire-resistant. It can be insulated and waterproofed to any degree required.

Plan on Truscon "Ferrobord" Steeldeck Roofs for your current structures, and ask our experienced engineers for assistance in helping you develop efficient, long-lived roofs.

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STEELDECK ROOFS
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AIR MILES	2 lbs.	5 lbs.	25 lbs.	40 lbs.	Over 40 lbs. Cents per lb.
149	$1.00	$1.00	$1.00	$1.40	3.5
349	1.04	1.25	2.63	4.20	10.5
549	1.11	1.52	4.38	7.00	17.5
1049	1.26	2.19	8.75	14.00	35.
2349	1.65	4.03	20.13	32.20	80.5
Over 2350	1.68	4.20	21.00	33.60	84.

Rates now in effect

RATES SHOWN above include special pick-up and special delivery of shipments in major United States towns and cities — with 3-mile-a-minute speed of flight in between.

SAME-DAY DELIVERY is possible in many cases. If your shipment is moving to or from an off-airline point, rapid air-rail schedules serve 23,000 such points in the United States. Service direct by air to and from scores of foreign countries.

WHEN TIME MEANS MONEY — an order gained, a customer better served — Air Express "earns its weight in gold."

WRITE TODAY for "Jig Saw Puzzle," a booklet packed with facts that will help you solve many a shipping problem. Air Express Division, Railway Express Agency, 230 Park Avenue, New York 17. Or ask for it at any Airline or Express office.

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Representing the AIRLINES of the United States

News

(Continued from page 24)

Richard E. Schmidt, of the firm of Schmidt, Garden & Erikson, Architects, was honored on the occasion of his eightieth birthday on November 14, at a cocktail party given by his partners in their new offices at 104 S. Michigan Ave., Chicago, Ill.

Walter P. Margulies, director of interior design for the firm of **J. Gordon Lippincott & Co.,** 500 Fifth Ave., New York City, has become a partner in the firm.

Election of **George H. Miehls** as president and treasurer of Albert Kahn Associated Architects and Engineers, Inc., to succeed the late Louis Kahn has been announced. **Sheldon Marston,** previously vice president, has been elected to succeed Mr. Miehls as executive vice president, and two new vice presidents were named: **Saul Saulson** and **O. L. Canfield.** These, together with **Robert E. Linton,** vice president and **George K. Scrymgeour,** secretary, comprise the executive staff of the organization.

Capt. Thomas Larrick, C.E., has been released from the armed forces and has returned to his former position as University Architect and Head of the Department of Architecture at Ohio University, Athens, Ohio.

Marshall Fredericks, young American sculptor who has just recently returned to this country after three years of military service in the Pacific and Far East, has been commissioned to design a $100,000 War Memorial Fountain to be located in the heart of downtown Cleveland, Ohio.

Earle S. Draper, Deputy Commissioner of the Federal Housing Administration, has announced his retirement from Government service to enter private business. He has been connected with FHA for more than five years. Prior to joining FHA he was with the Tennessee Valley Authority for seven years. Mr. Draper plans to establish offices in Washington as a consultant in city and land planning, housing construction, and housing finance.

OBITUARY

1897-1945
J. Burn Helme

Prof. J. Burn Helme, A.I.A., in charge of the Division of Fine Arts, Penn State College, died suddenly on November 12. He had been a member of the faculty of the Department of Architecture at Penn State since 1925. Prior to that he was with architectural firms in Toronto and was engaged in city planning. Professor Helme was also a lecturer and contributed articles to professional journals in this country and Canada.

ARCHITECTURE AND THE CHURCH

The design of a church building should be a creative act, motivated by the love of God and of humankind.

Too often, within our times, it has been approached as a matter of business, and the designer's stock in trade has been an extensive knowledge of historic details, rather than understanding and imagination. The result is that too few churches of today are true works of Architecture.

We are all about to build together a new period of history. It is a time when spiritual as well as physical reconstruction must be undertaken all over the world. The Churches of all faiths have at the moment an opportunity to begin to restore religion to as vital a place in the life of our times as it held in the middle ages. God knows, the world needs it! To do this the Church must go forward; it cannot expect the people to turn back to the ways of other centuries. Will it meet the challenge?

One of the infallible indications we will have of whatever progress the Churches may make during these next years will appear in their plans for new buildings. If they insist upon clinging to the superficial architectural forms that have grown meaningless in today's world, we will know that they are not yet awake to their responsibility as a part of evolving society. If, however, they return to the basic architectural virtues that marked the truly fine church buildings of all times, we will have evidence of a sincere intent to be a genuinely influential part of contemporary life.

The church must, above all buildings, be honest. Its architecture must be as truthful in plan and structure as its teachings. And since it is a center for the expression of the finer emotions, it should be as beautiful as the collaborative genius of architects, artists, and craftsmen can make it.

This clearly does not mean applied archeology: neither does it mean "modernistic" design or any other stylistic fad. It means Architecture. Every real creative architect knows what that is. The others don't count.

Kenneth Reid

Sanborn

Chapel Of The Transfiguration, Moose, Wyoming

It would be heavy-handed to indulge in a technical, architectural analysis of this disarming little Chapel. The word "reredos," for instance, would seem uncomfortably sophisticated to apply to the dramatic over-altar treatment—a sheet of plate glass that transmits a breath-taking view of the Grand Teton Mountains. Within its obvious limitations, however, the Chapel constitutes an exceptionally instructive juxtaposition of superb site, honest planning for use, and natural materials logically employed—good architecture, in short. That it also achieves a spirit that seems highly appropriate for a House of God makes it particularly pertinent to this issue.

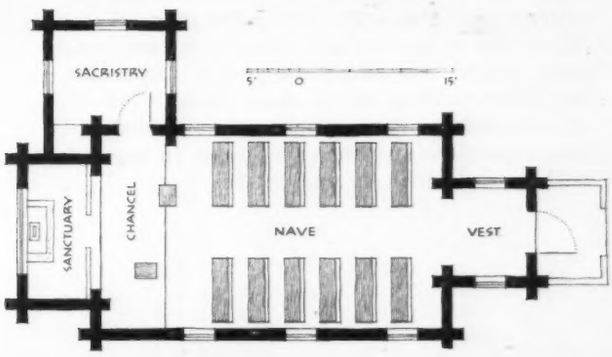
Perhaps the most important factors affecting the development of this Chapel were the sincere faith and devotion that went into it—elements which cannot be learned from formulas or data sheets. In addition, however, the little structure possesses numerous notable characteristics that could practically serve as a check list for the progressive designer commissioned to design a contemporary house of worship—simplicity, dignity, directness in plan and structural expression, a site that makes a travesty of the city man's notion of values, restraint, unpretentiousness. With this example before him, the architectural stylist might ponder to what avail—either in God's honor or to the building committee's budget—are the costly architectural fragments with which he delights in loading his edifices.

The Episcopal Chapel, located in the fabulous Jackson Hole section of Wyoming, was the gift of Mr. and Mrs. Charles B. Voorhis of Pasadena, in thanksgiving for their children, Virginia and Jerry—the latter, the present Congressman from California. Built in 1925, the Chapel was designed by the late Very Reverend Royal H. Balcom, who was then Archdeacon of the Diocese that includes this portion of the State. As Mr. Voorhis tells us, "Doctor Balcom chose the site and planned the chapel in every detail, arranging for getting the logs out of the forest and bringing them down."

All of the log work was done by experienced local axmen. The pews are made of quaking aspen saplings, as are also the altar, the lectern, and the pulpit. The grounds are enclosed by a fence of lodge pole pine logs, and the sheltered entrance gate is covered with a roof of saplings, underneath which hangs a bell, brought from Dr. Balcom's old church at Irvington-on-Hudson, N. Y.

The Chapel is used only during the summer months, inasmuch as heavy snows make access in winter difficult. The congregation, coming from a wide surrounding area, includes many ranch visitors who arrive on horseback to attend services. The Chapel interior seats but 100; to provide for "overflow," an awning is arranged outside the building in fine weather. It is interesting to know that the Chapel has proved so popular that in one prewar summer, more than 16,000 persons signed the register.

Mildred S. Capron



Above, at right: winter view of the Chapel, taken through the entrance gateway. Directly above: the plate glass window over the altar silhouettes the Cross against a view of the Grand Tetons. Below, right: general view of the Chapel taken within the yard enclosure.

Schulz

A Liberal Catholic Church For New York City

JEDD REISNER AND ASSOCIATES, ARCHITECTS

P. A. Dearborn

The site, already excavated (for a project that was abandoned), is 80 feet wide and 100 feet deep.

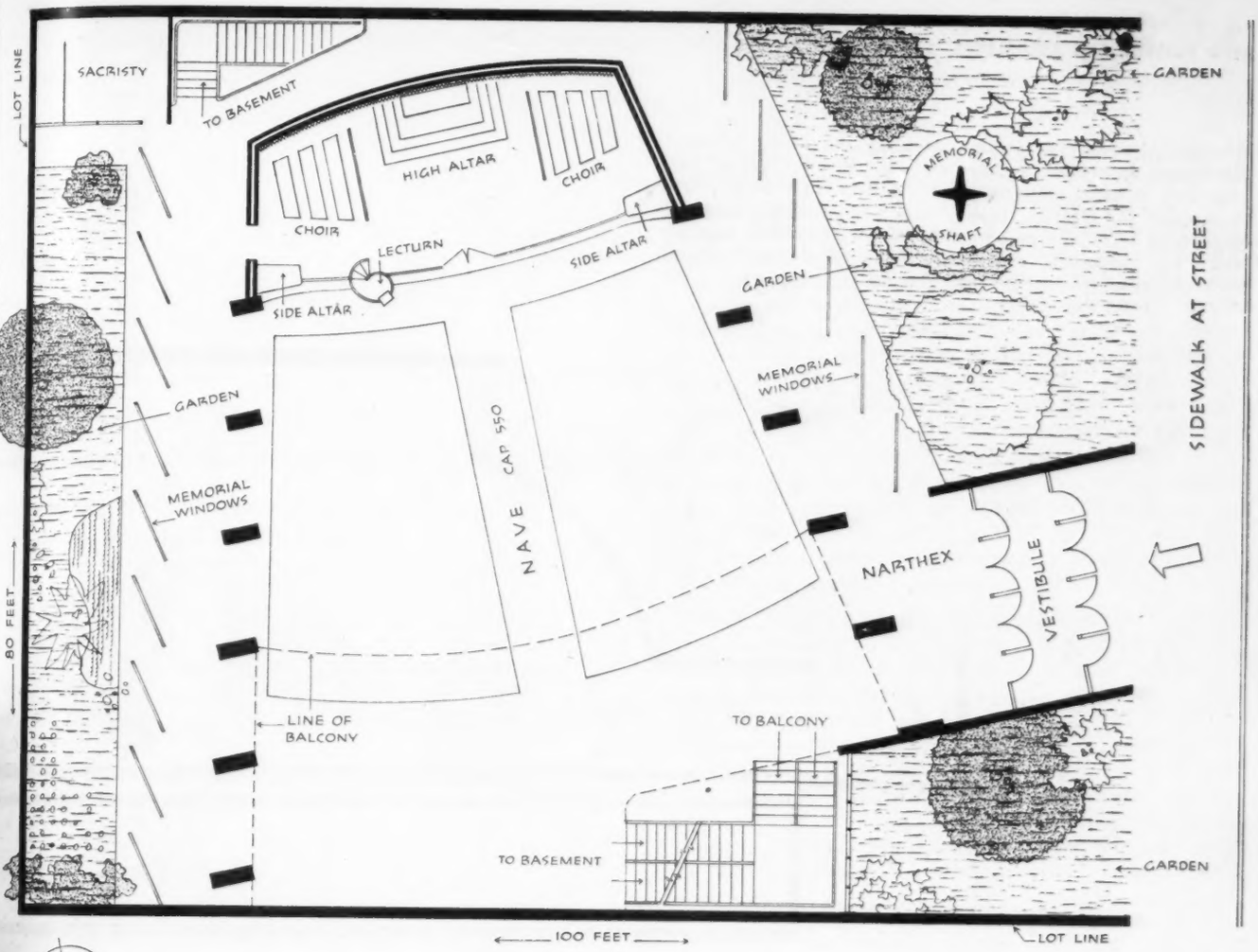
Architects and client: Jedd Stow Reisner, Architect; John P. Hunter, Associate; Manfred Hufschmid, Associate; the Rev. James P. Roberts, Rector.

Seldom does an architect have the opportunity to design a church with no stylistic strings attached. The church shown here is an exception. The only requirements were to meet the basic liturgical needs, provide space for the congregation, and stay within a modest budget. How these should be met was left entirely to the designers. Happily, progressive minds were at work, and the resulting design has the hallmarks of good architecture of any period—simple, direct planning, proud use of contemporary materials and construction, and a close integration of all elements so that structure is also decoration, materials are what they seem to be, and nothing is hidden or apologetic.

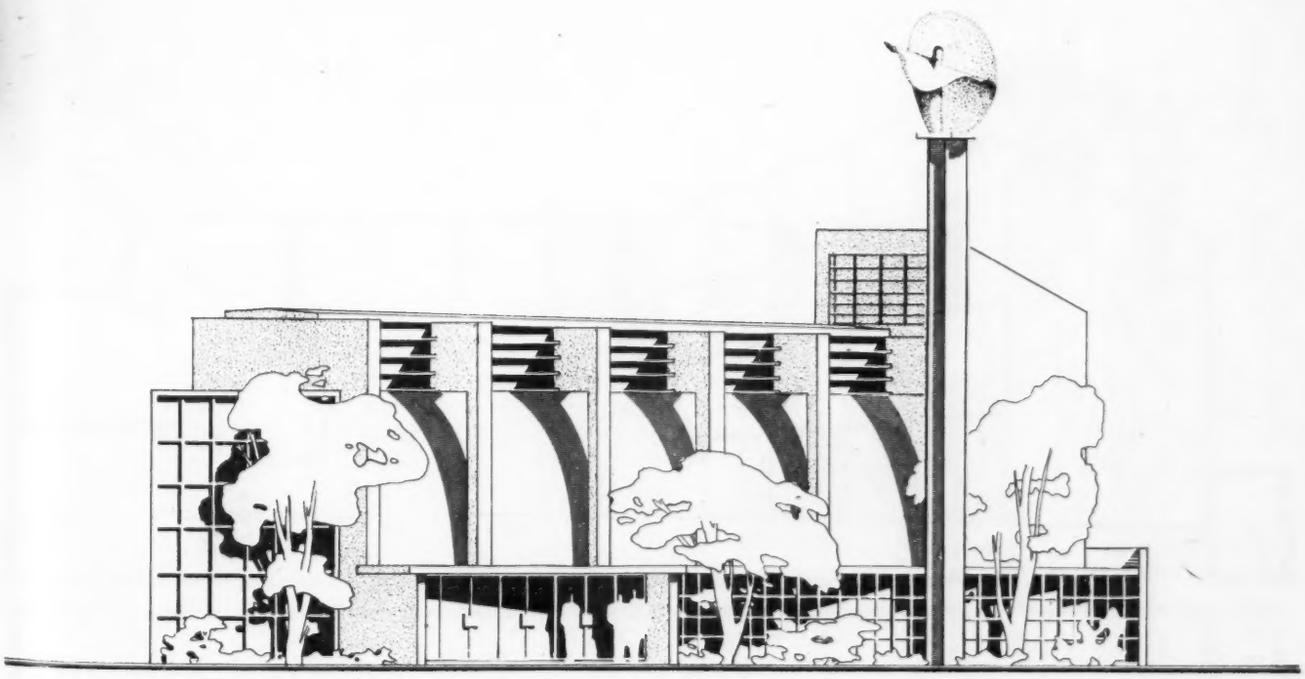
Requirements: The congregation for which this extraordinary church design was developed is of the Liberal Catholic faith. Not a branch of the Roman Catholic Church, it includes in its ritual some of the richness of that Church while maintaining many aspects of the preaching service of most Protestant Churches. The stated requirements were few and simple: the altar should be toward the east; the church should be the only room (except for the sacristy) at street level; two side altars should be provided in addition to the central high altar; and the auditorium should accommodate 500. Otherwise, the only limiting factor was the physical size of the site—80 feet wide toward the street, 100 feet in depth, and flanked on both sides by existing buildings.

Solution: In approaching the design, the architects gave first consideration to the particular spirit and needs of the congregation to be served. The religious functions were to be of utmost importance, as this group gives intense interest to its religious life and celebrates Sunday as a distinct day of worship. Social and recreational activities were assigned a minor role —and, in the plan, to the basement level. The architects' chief wish, therefore, was to provide for these people the best possible means for expressing their faith and conducting their services in a simple, straightforward building that could be maintained at minimum expense.

The site is in a crowded residential section of New York; little exists nearby in the way of planting or open space, and the congregation, for the most part, does not afford the luxury of country homes or frequent trips out of town. Hence, a touch of nature in the form of attractive landscaping was considered a "must." These planted areas, occurring at both front and rear, help insulate the auditorium from both street and inner-block distractions and, seen through the windows that line the outer walls of the auditorium, provide the congregation with a desirably peaceful outlook from within the church.



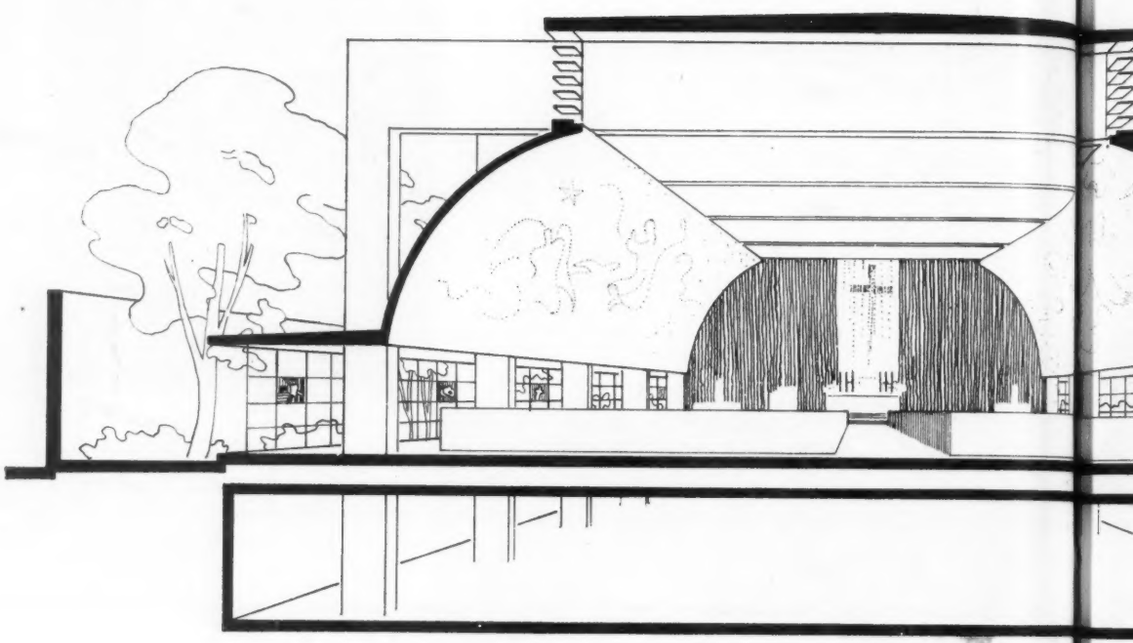
FIRST FLOOR PLAN



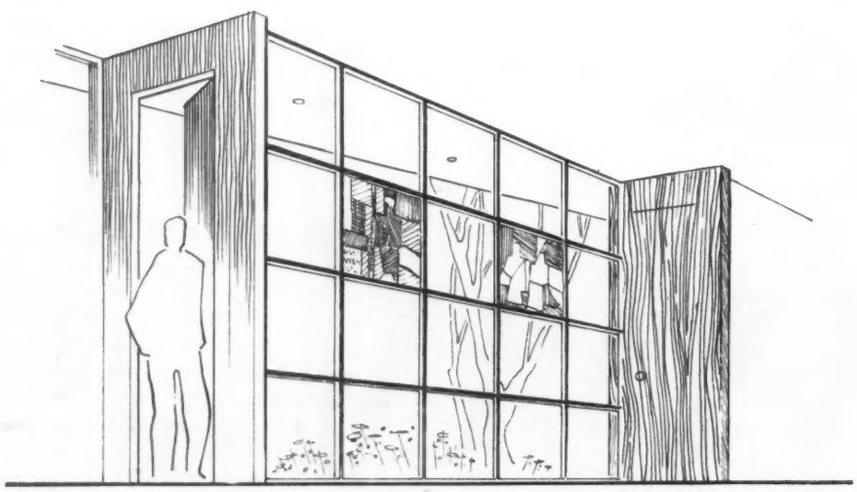
STREET ELEVATION

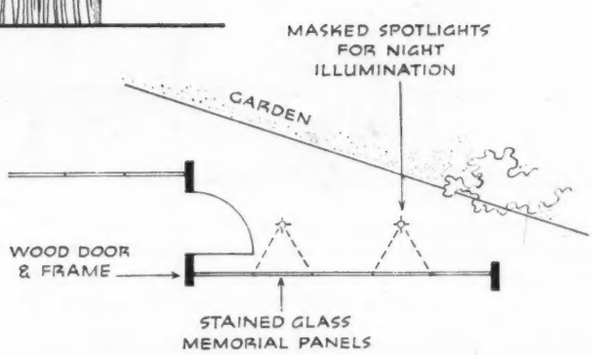
0 10'

At right: transverse section showing the unity between structural form and finished design. Below: one of the step-back window walls; separate panels could be devoted to memorials. Bottom, facing page: longitudinal section, balcony at left, girders and clerestories at center, and, at right, the curtained, curved wall behind the high altar. Note the roof projection that floodlights this area.

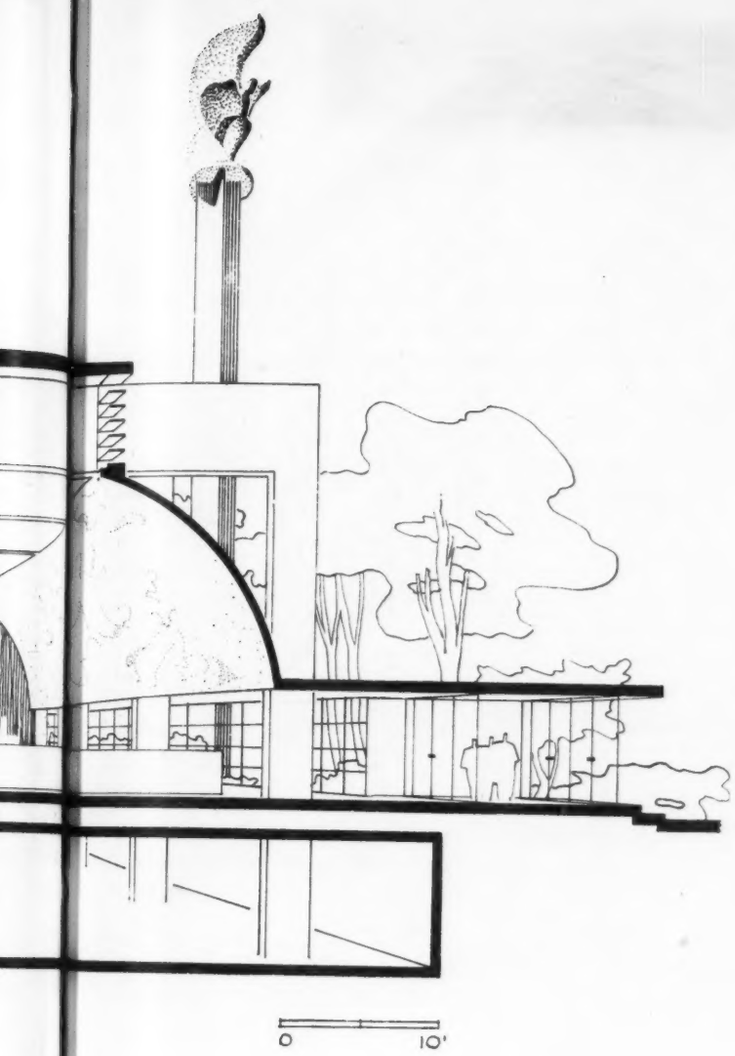


CROSS SECTION





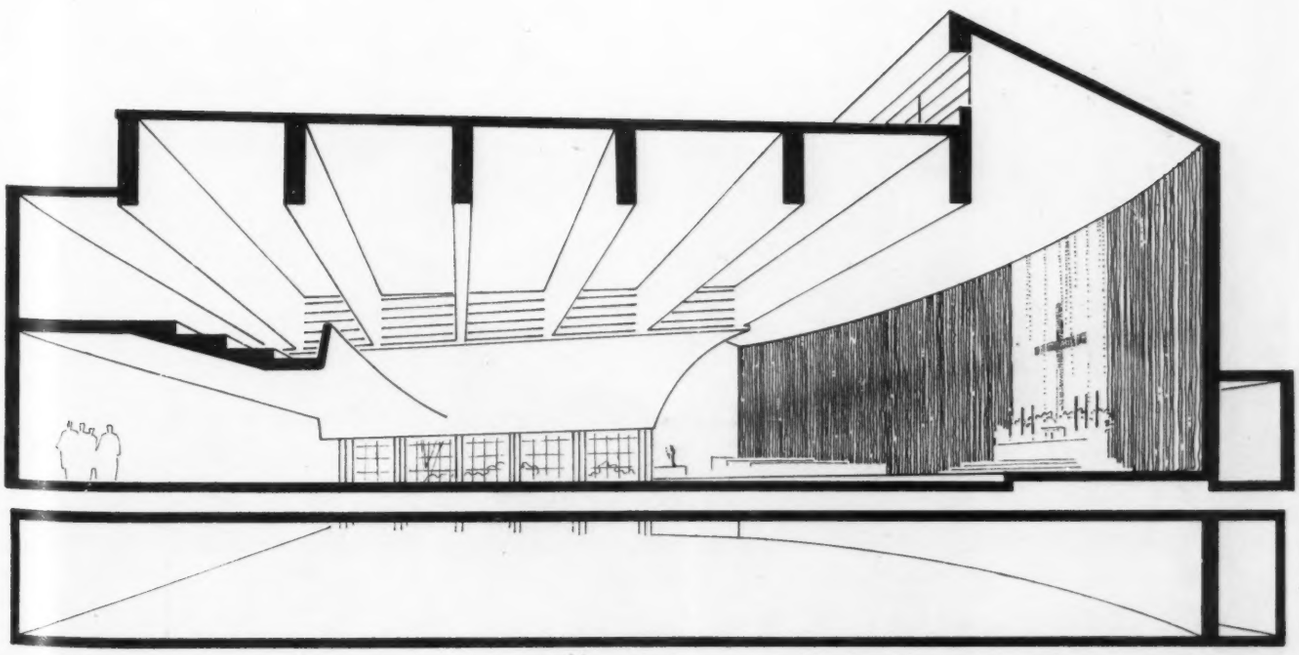
DETAILS OF
MEMORIAL WINDOW



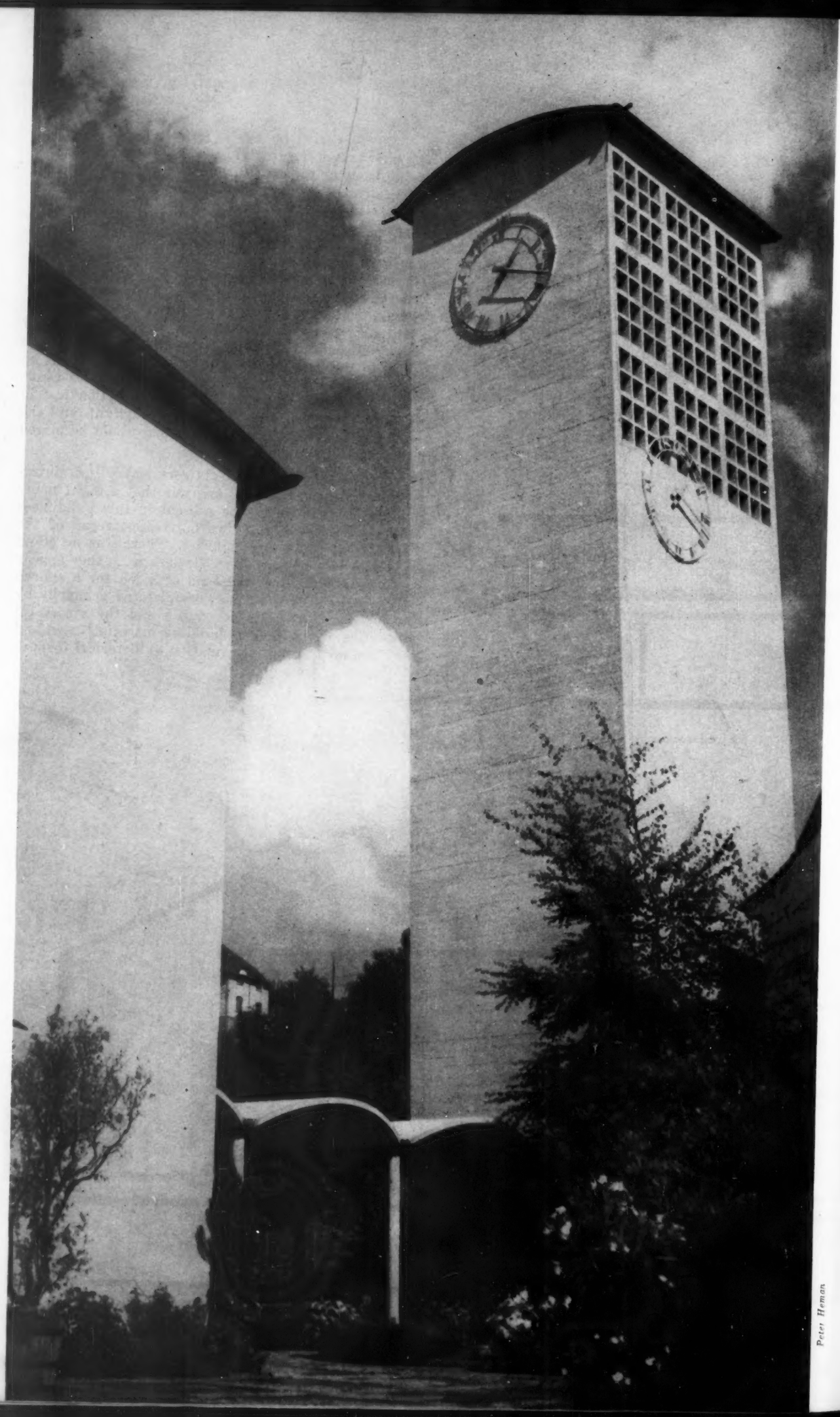
0 10'

Structure: A series of rigid reinforced concrete frames is the basis of the structural system. In adopting the integrally poured column and girder method, the architects killed three birds with one stone: automatic fireproofing; simplified flashing and waterproofing problems around the clerestories between girders; minimum maintenance. The arched side walls are a further instance of integration—one element where otherwise there would have to be both a wall and a ceiling. The idea is that these curved surfaces would eventually be treated with a controlled scheme of memorial sculptures. Aside from the simple structural forms of the building, the only visual distraction is on the east or altar wall which is draped for its whole width from floor to ceiling. A roof projection just in front of this area throws a flood of daylight onto the altar and dais. Artificial illumination would be placed to parallel daylighting sources.

General Note: The architects comment: "It is interesting to discover in final analysis that a great many familiar church forms are present in this building—forms reminiscent of flying buttresses, recall of the barrel vault, clerestory lighting. There was no effort to bring these elements into the design . . . they appear because they did the best kind of a job for a church of this nature. The forms were dictated primarily by the physical needs of the church and the structural properties of the various building materials used and they had no preconceived relation to historical forms."



LONGITUDINAL SECTION



Peter Heman

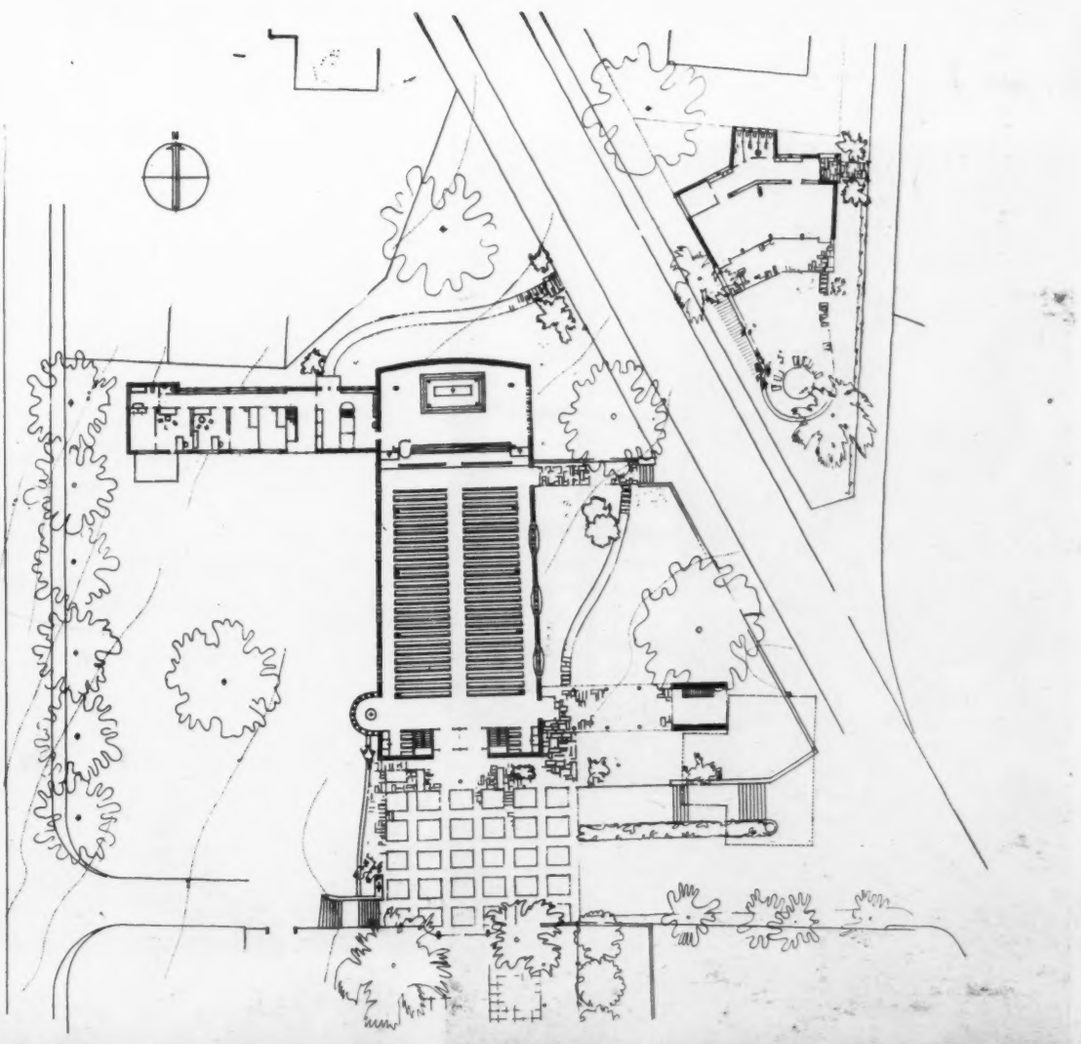
Roman Catholic Church, Dornach, Switzerland

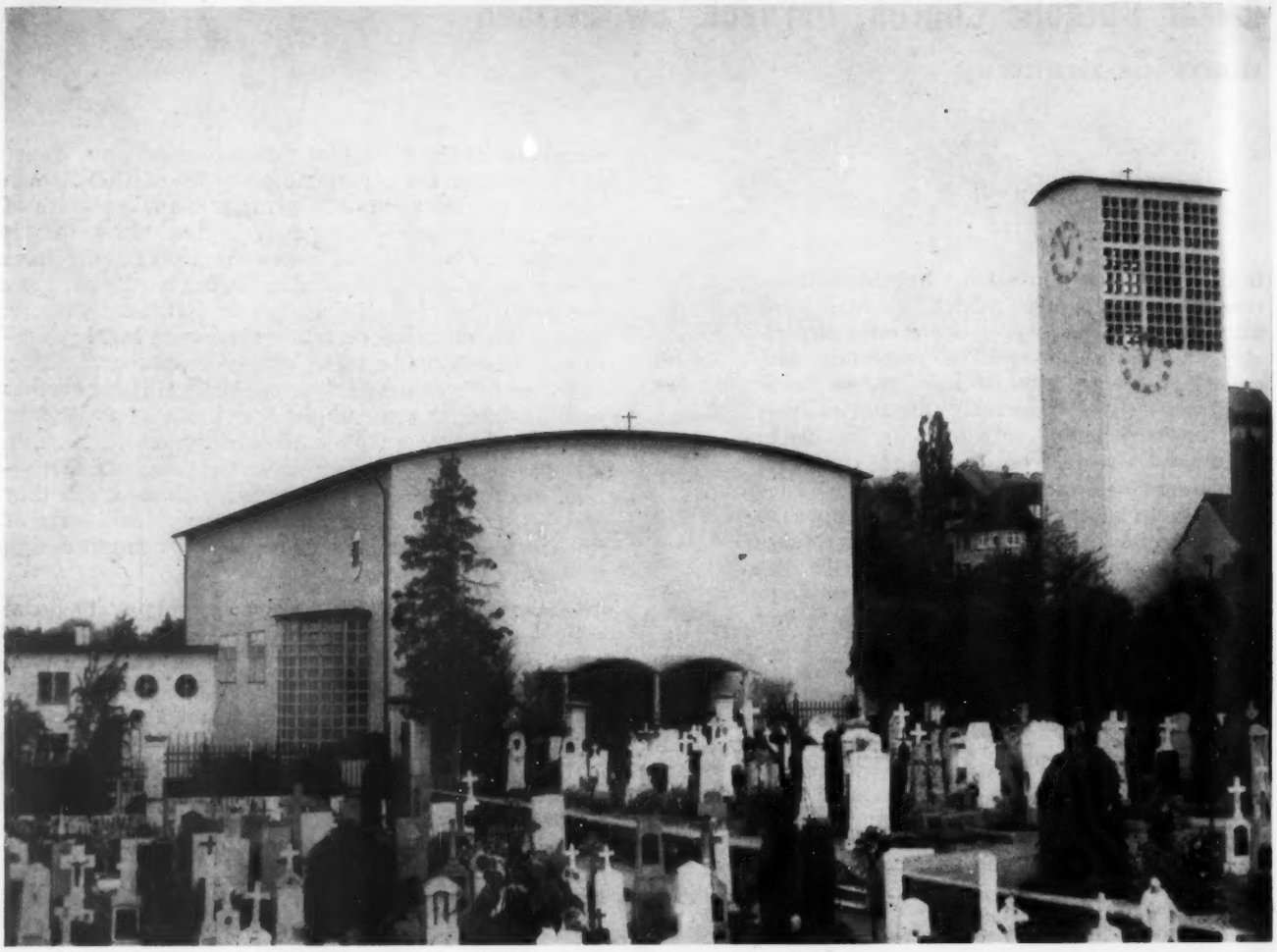
HERMANN BAUR, ARCHITECT

In the history of Christian Church architecture, the buildings to which we look back with the greatest respect are almost invariably those wherein native materials and methods, contemporary to their period, have been honestly — frequently dramatically — used and integrated into organic, beautiful structures, precisely designed to serve religious customs and needs of the time. It is a good sign of the vitality of contemporary architectural design that the progressive minds today attack the problem with the same sincere approach, searching ways to use modern structural systems honestly and vigorously to create dignified religious structures that are appropriate to the worship needs of contemporaries. The reinforced concrete church shown here, for example.

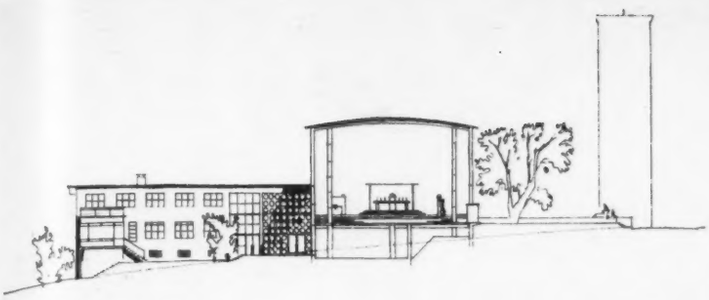
Simplicity is the word that comes to mind on a glance at the plan or the structural elements of this Roman Catholic Church group at Dornach, five miles south of Basle, Switzerland. Argument that a bell tower is superfluous, that even greater simplicity could have been achieved might be admissible, but hardly germane to a discussion of this particular project. Furthermore, campaniles do serve certain ends, some highly functional, others symbolic, or purely sentimental. They place the bells at a height where their ringing reaches well out into the community; they serve as a standard that lifts the Cross (in a curiously attenuated form, in this case) above all else; they can—and do, here—raise clocks aloft so that many are informed, and they are also familiar, readily identifiable masses—one of the chief hallmarks to characterize church design through the centuries.

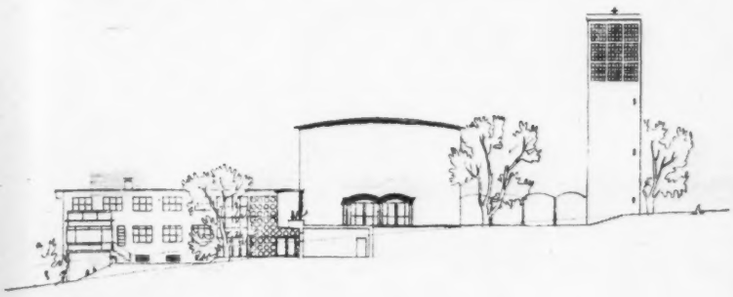
The related elements—tower, church, and priest's house wing—are all of reinforced concrete, which is variously used in severely plain wall masses that are typical of the simplest employment of the unornamented material, in thin, curved sections that shelter the entrance doors and roof the passageway between church and tower, in the fine lines of the semi-circular bay window enclosing the baptismal font, and in the lattice grid that opens into the bell chamber at the top of the tower. The plan needs little comment; its direct and unaffected provision of the essential elements is at once apparent.

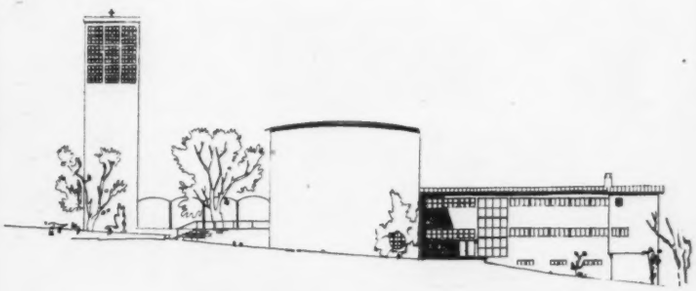


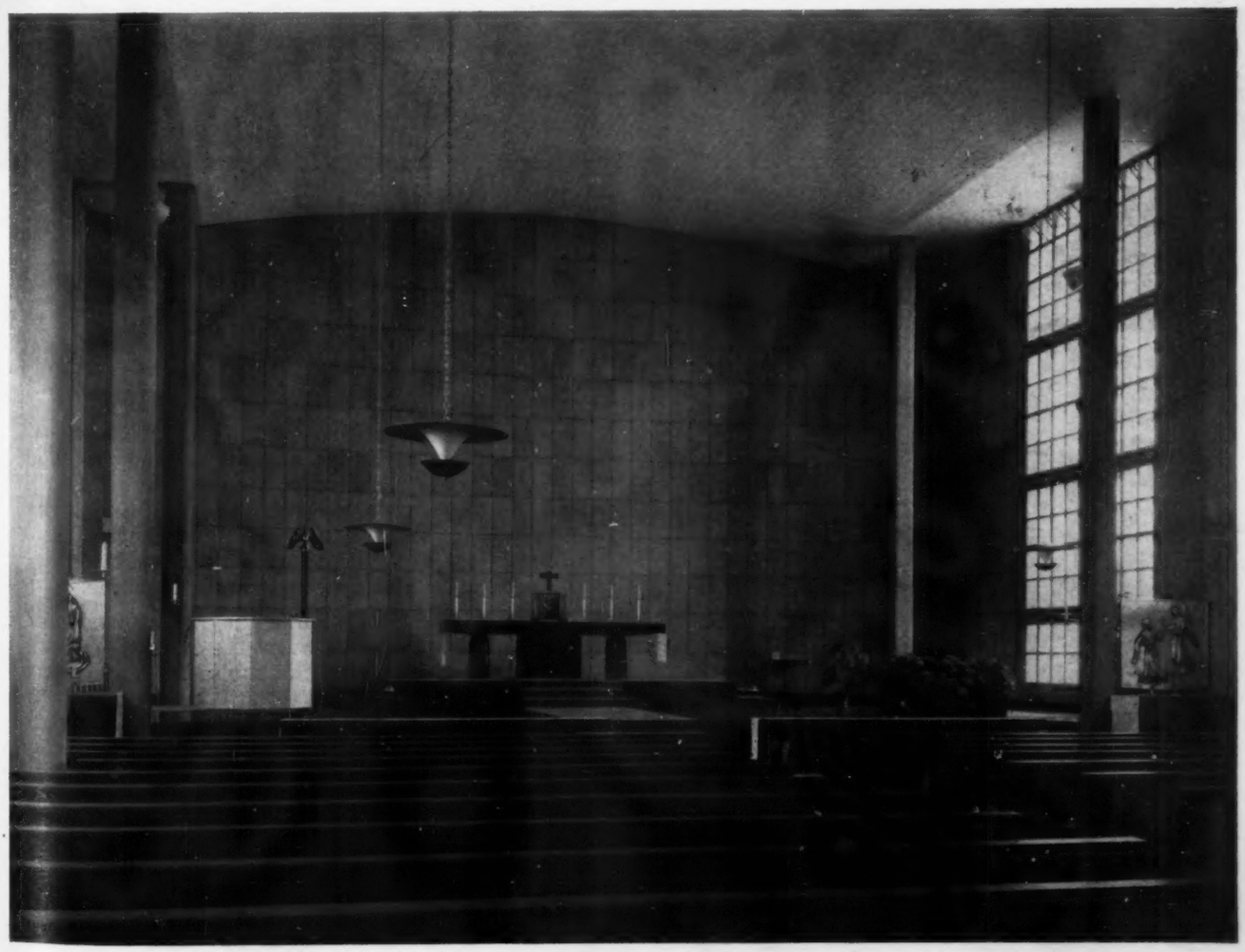


Within the church, where the architect desired a richer effect than that of plain concrete, the walls are surfaced with rectangular slabs of a porous native stone; the altar table, raised on a broad dais, flooded with light from a huge window in the side wall, is of dark polished stone; stone is also used for flooring throughout.









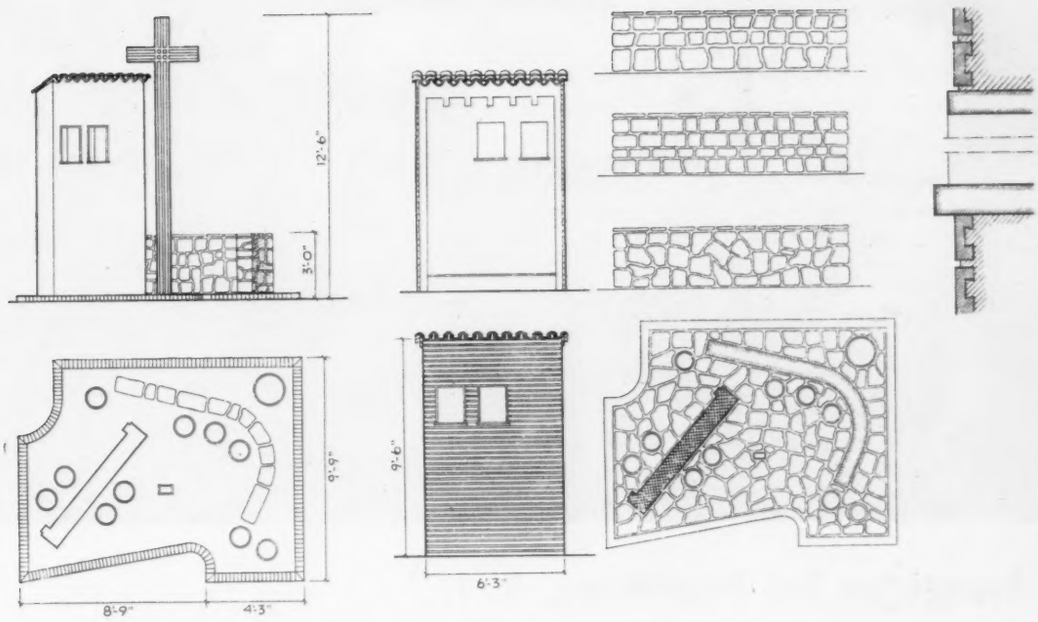
Shrine In A Convent Cemetery, Rovereto, Italy

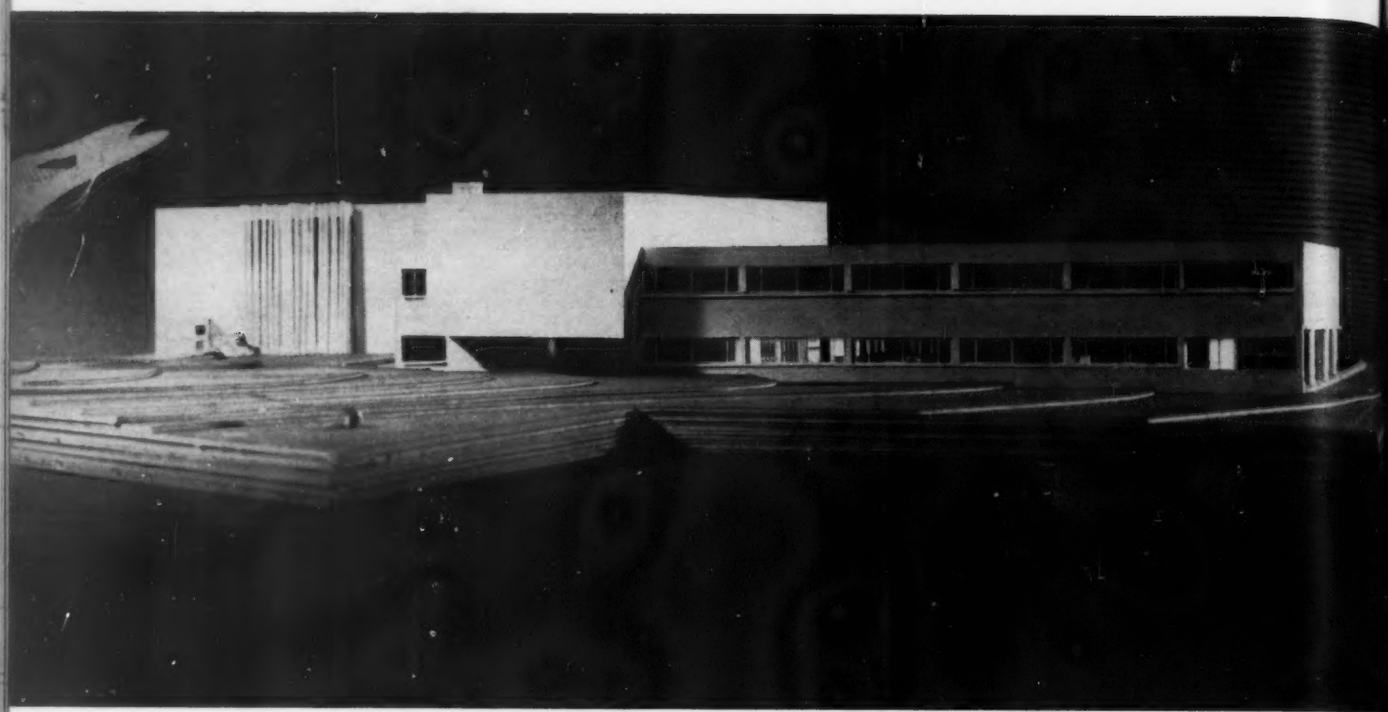
LUCIANO BALDESSARI, ARCHITECT

Advocates of "living memorials"—and we are on record as among them—cannot but include in this category the infrequent instance of the shrine of a purely symbolic or sentimental nature which, in the hands of an inspired designer, is imbued with vitality and artistic integrity of continuing worth — a "living memorial" in the broadest sense of the term. Such a one, we believe, is the little convent shrine shown here.

Reverently conceived, beautifully executed, this serene monument marks the burying ground reserved for the Sisters of the Blessed Virgin Mary. Set in a simple field within the cemetery grounds, the shrine is bordered by orchards of peach and cherry trees, seen against a typically sparkling Italian backdrop of rounded hills, blue sky, and bright sunshine.

The symbolism of the design is a joyful expression of faith: from the windowed wall—the convent—a flock of doves which represent the souls of the departed Sisters is arranged in flight toward the Cross, draped with the sudarium. Built on a base of slabs of red-purple porphyry edged with brick, the symbolic windowed wall is topped by terra cotta roof tile; the doves, the work of the sculptor Voltan, are of green-toned hand-wrought copper; the iron Cross is enameled in green. A small garden, made up of a series of flowerpot receptacles, is enclosed in a low stone wall; a laurel tree and a midget cypress stand in back of the enclosure.


12'-6"
3'-0"
9'-9"
8'-9"
4'-3"
9'-6"
6'-3"



Synagogue For Providence, R. I.

A THESIS DESIGNED BY IRA RAKATANSKY, HARVARD UNIVERSITY

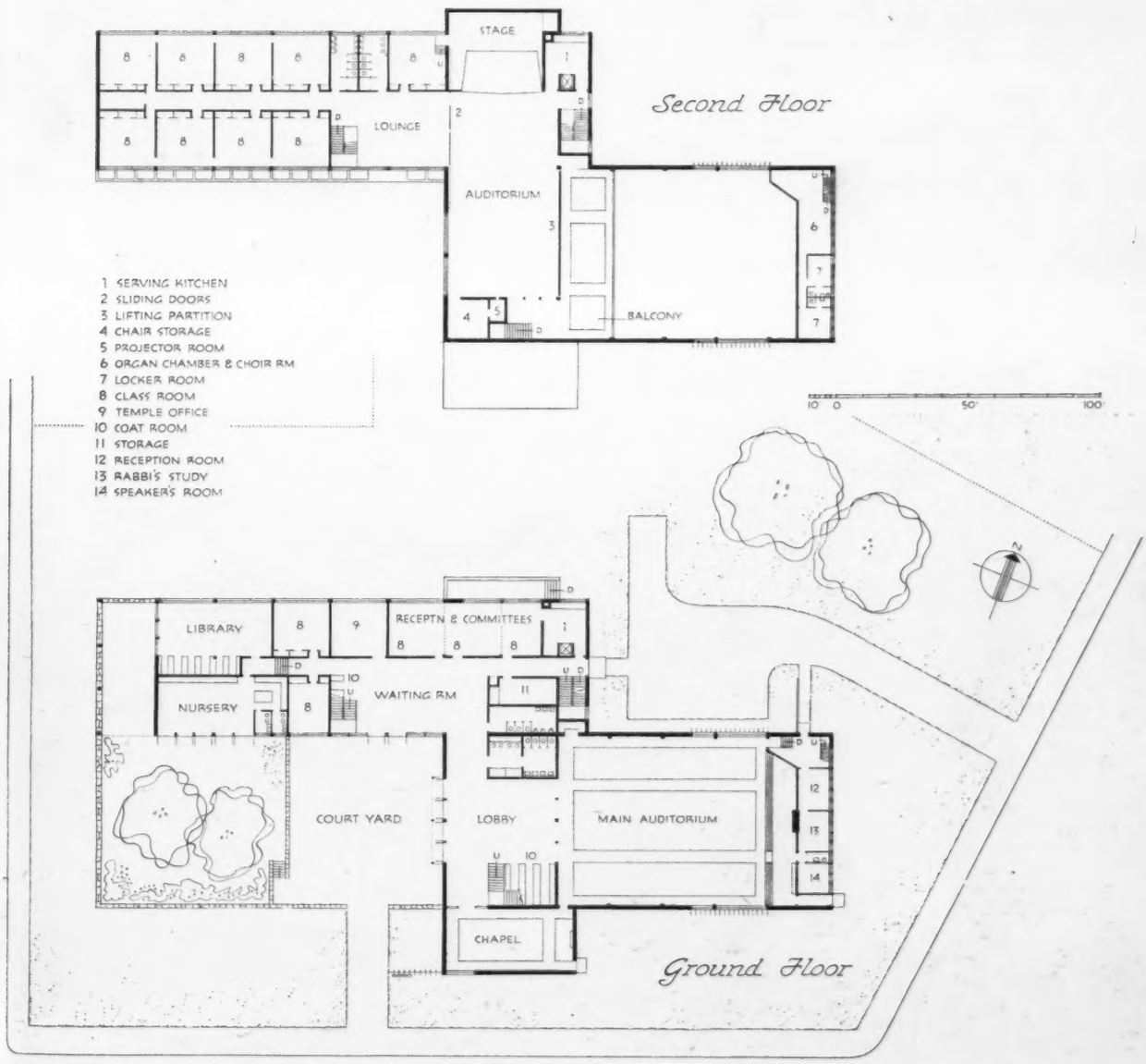
In a school design problem, the student, free from the restraints imposed by actual building committees and budgets, can happily work toward ideals. Though the project may never be realized, fresh ideas emerge; new potentials are indicated; old habits and prejudices receive a healthy jolt—all of which constitute sustenance for architectural progress. Thus, the Reform Temple design shown here may well have the effect of a pebble dropped into a pond—with the ever-widening ripples stirring the imaginations of others to create synagogues for tomorrow of greater comfort, convenience, and beauty.

Problem: To design a Reform Temple for an actual Providence, R. I., congregation and a site of 88,609 square feet. The designer lists the requirements as follows: a Temple (auditorium for 800, rabbi's study, etc.); a Chapel (for small weddings and daily services) to seat 100; and a Meeting House, including religious school rooms, a nursery, a gymnasium-dance hall—dining room, the Temple offices, and a library.

Solution: The three major elements are arranged around and entered from a central courtyard. Both Synagogue and Chapel face east (according to tradition) and are directly served (without stair climbing) from the main doors. The court is also useful as an off-sidewalk gathering place after services.

A thoughtful provision is the coat-checking room at the entrance to the Synagogue. To accommodate crowds on high holidays, a lifting partition is provided at the rear of the main auditorium balcony. The kitchen is placed so that it serves both the ground floor rooms and (by means of a dumb-waiter) the upstairs social hall.

Construction: The proposed structural system is a steel frame with concrete rib floor slabs and 12-inch masonry filler walls, except in the Chapel where a two-way pan concrete slab on a masonry bearing wall is used. For heating, the proposal is to use a split system—panel heat for the first floor slabs and on the side walls of the main auditorium and the Chapel, supplemented by a blower to circulate air in the auditoriums. In summer cold water would be circulated in the floor panels. Convectors are specified for the second floor. Fixed, structural fins outside the large windows of the main auditorium are arranged for favorable daylight control.

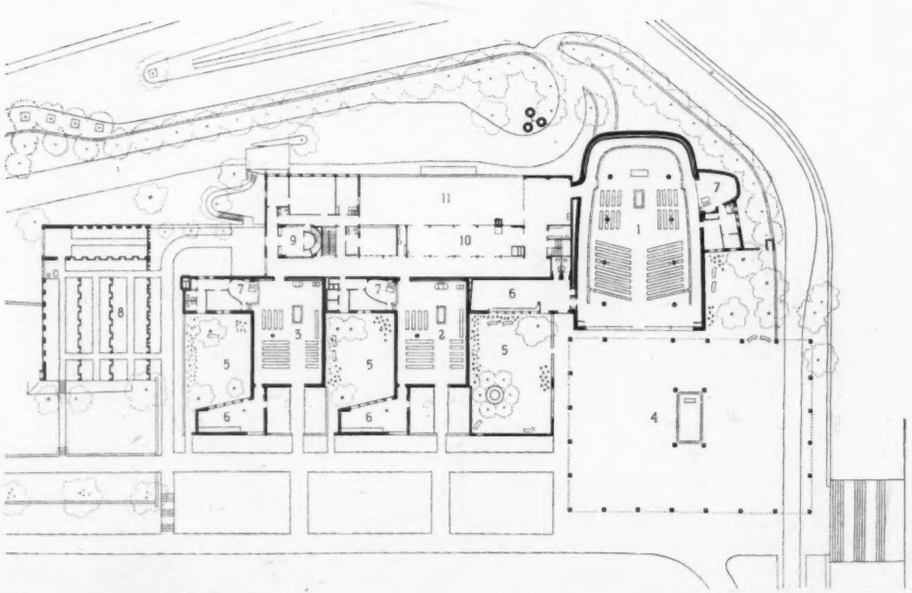


Photos by Sandels (Swedish Press Bureau—Simons)

Forest Cemetery Crematorium, Enskede, Stockholm,

ERIK GUNNAR ASPLUND, ARCHITECT

1 HOLY CROSS CHAPEL
2 CHAPEL OF HOPE
3 CHAPEL OF TRUTH
4 ATRIUM
5 GARDEN
6 FAMILY RETIRING ROOM
7 ORGAN AND CHOIR
8 WALL NICHES FOR URNS
9 URN STORAGE
10 FLOWER PREPARATION
11 ROOF DECK

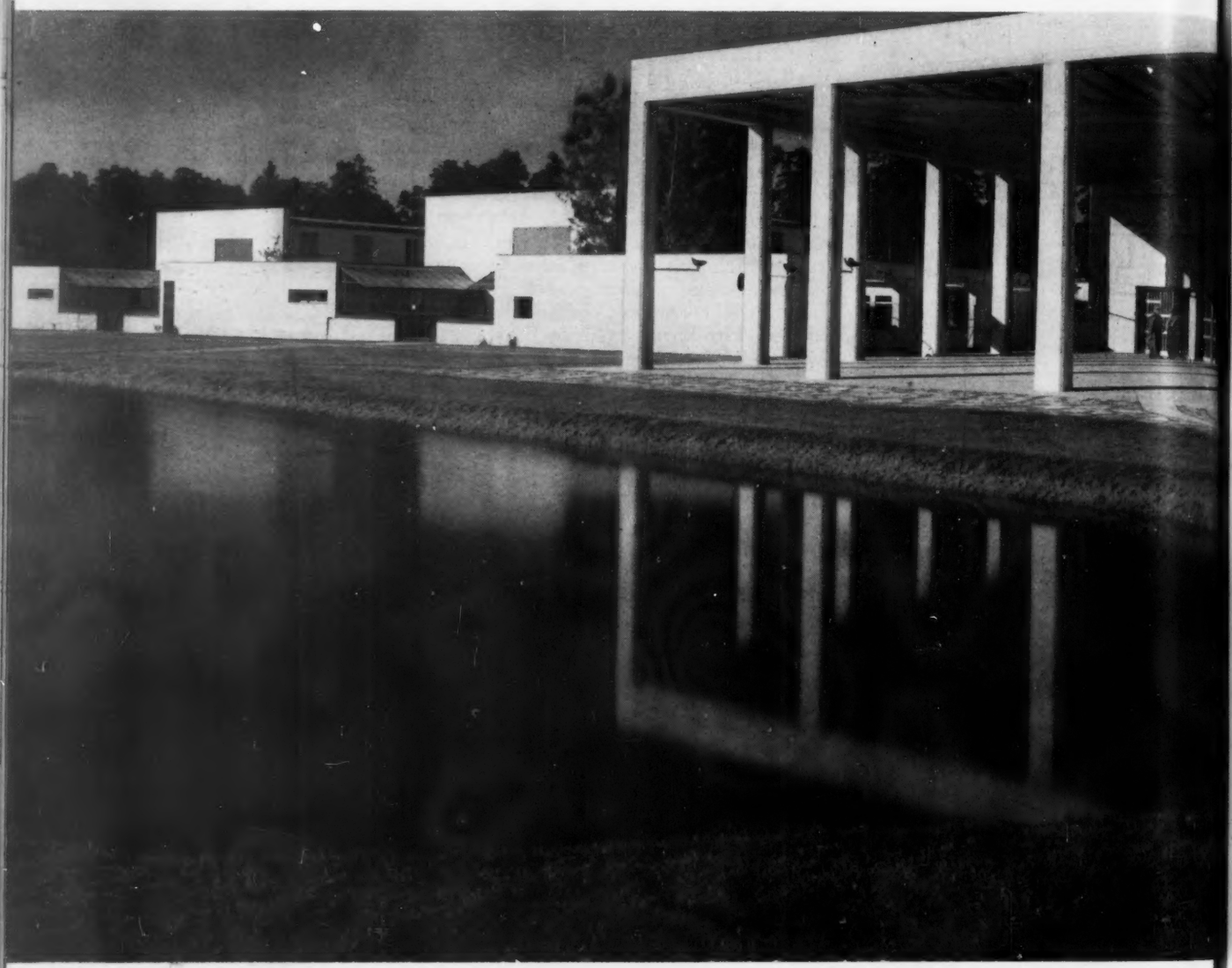


Of all buildings having a sacred or religious function, none, we believe, deserves greater subtlety of handling than the chapels and attendant offices that serve the bereaved and administer last rites to the departed. Yet, curiously, structures of this nature err more often than most on the side of vulgar pretentiousness. In sharp contrast is this serene group which was Asplund's final work. Imaginative, sensitive, almost archaic in its simplicity, the conscious composition of landscape and buildings achieves in a contemporary medium a dignity reminiscent of the consummate monuments of Classic times.

This is one of those fortunate instances where the site was selected—even, to a degree, created—for the buildings several years before they were built. Asplund, with Sigurd Lewerentz, designed the entire Forest Cemetery grounds, and the long approaches and gentle slopes are a carefully conceived landscaping scheme that included rearrangement of certain natural elements to form dramatic sites for the buildings and studied focal points.

There is a subtle relationship between the areas of grassy slopes and the backgrounds of dense pines. The giant marble Cross is placed at just the point where, from the approach side, it boldly proclaims its authority as a dominant in the composition. The building group, in addition to serving its specific functions, is also a unit in this superb, grand-scale plan, of which the sky itself is a commanding element.

In the building plan, the provisions for cremation ceremonies and for serving the tender needs of the bereaved include several niceties that should not be overlooked. For each of the three chapels—the large Chapel of the Holy Cross and the lesser Chapels of Hope and of Truth—there is provided a family waiting or retiring room which, through its windowed wall, looks out on a peaceful walled garden—private, quiet, beyond the reach of the eyes of others. The plans and seating arrangements of the small chapels are thoughtfully worked out so that when only a few friends are gathered, there is no sense of emptiness; yet a rearrangement of the seating and full use of the space can accommodate as many as 100. The great atrium, framed with square, marble-surfaced columns, defines a sheltered space where persons attending the larger ceremonies can gather and look out on the natural beauty framed by the rectangular openings. Because of its openness and height, the atrium emphasizes rather than interrupts the continuity of the landscape.



As the photograph at the top of this page shows, the impressive columned atrium at the front of the Chapel of the Holy Cross possesses an extraordinary ability to catch and emphasize the sunlight; by contrast, the depth of the element produces shadows of exceptional richness and transparency. The result seems to be an environment with a quality of combined mystery and serenity—the exact spirit, it would seem, that should surround buildings designed for the purposes involved here. A reflecting pool echoes the patterns of light and shade, and the whole group shines in front of a backdrop of deep woods.

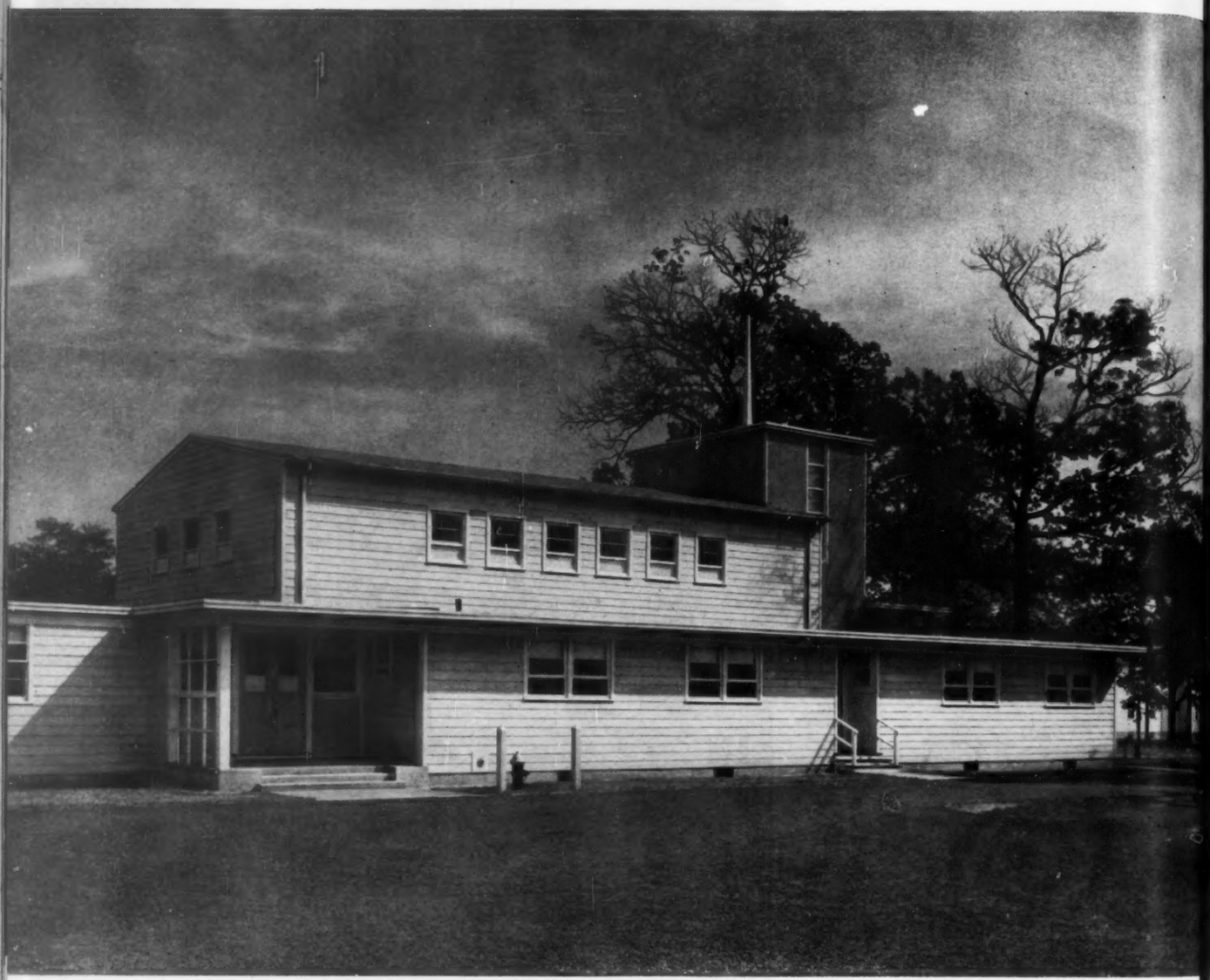
Photographs from either side or from the front all illustrate the degree to which the Crematorium commands the site; at the same time, it appears to be one with the surroundings rather than competing with them.

Each of the chapels has been given a distinctive decorative treatment; the simplest is the Chapel of Truth shown at the bottom of the facing page. Here, reliefs by Ivar Johansson are composed on the blank wall above the altar; the flooring is a rich pattern of various stones and kiln products; a vigorous abstract pattern is formed by the studied arrangement of the organ pipes at left, and the whole, while rich in embellishment, achieves a suitable dignity and simplicity.

In sum, the Crematorium is a particularly happy example of contemporary design of a religious structure that neither makes compromises with tradition nor displays any of the banalities of stylistic modernism. Some critics have found the work a bit stark and severe, and it must be confessed that it seems as if the geometric lines of the mass might better be relieved by a little more planting close to the structure. It may be, however, that the camera's close-up views are somewhat deceptive in this regard. Probably the bolder contrasts of the total building mass against the vast luxuriant natural setting are sufficient—and all the more impressive—for not being cluttered up with incidental planting.

ERIK GUNNAR ASPLUND, ARCHITECT

At top: view of the Crematorium from the north; center: looking down on the building from the hillock in front; bottom: the Chapel of Truth.



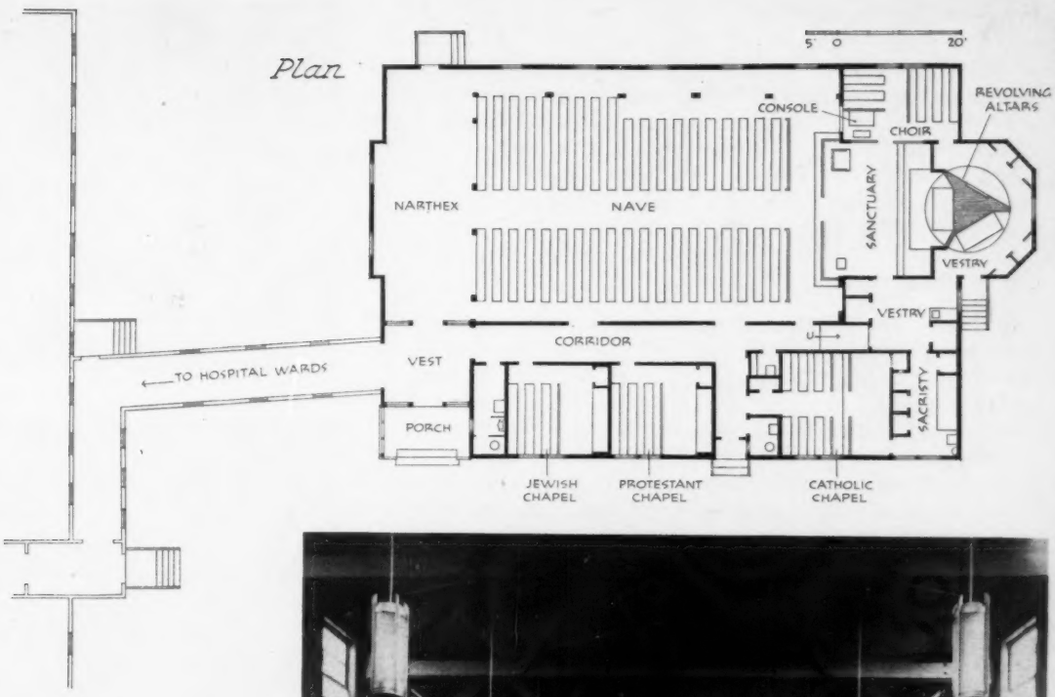
Gottscho-Schleisner

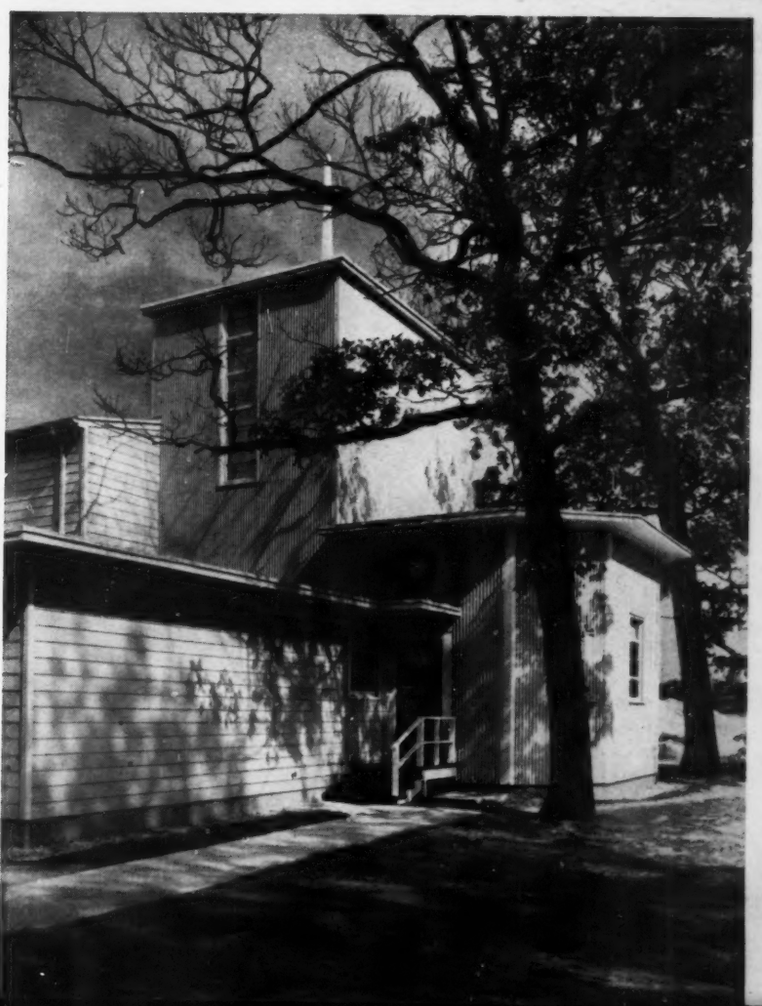
Chapel, U. S. Naval Hospital, St. Albans, N. Y.

**SPECIALLY DESIGNED BY YORK AND SAWYER, ARCHITECTS
UNDER THE DIRECTION OF THE BUREAU OF YARDS AND DOCKS**

Among the chief hallmarks of architectural progress are close integration between form and function, materials and structure, and structures and their environment. In this wartime chapel for a Naval hospital, there is, in addition, a striking physical integration between the three major faiths—the Catholic, Jewish, and Protestant groups being divided by nothing more than a standard frame partition. Admittedly more a product of the demands of economy than of any concerted effort to erase barriers between beliefs, this successful experiment appeals to us as a symbol of hope for eventual realization of an integrated society.

This interfaith chapel is built as the terminus of one of the wings of the great pavilion-type Naval hospital at St. Albans, Long Island. The ramped entrance corridor indicated on the plan leads from the main, interconnecting hall-traffic system of the institution, so that persons may reach the chapel from any of the wards without going out of doors. Patients in wheel chairs can maneuver the ramps, and a portion of the pew area is left vacant to accommodate this segment of the congregations. Wartime restrictions demanded simplicity of design and construction; yet, though there is an almost barracks-like severity to the design, it is instructive to see what a suitable house of worship can be achieved with such Spartan resources. The tower, occurring above the altar area, both recalls a familiar church-design element and serves, through its high windows, to focus daylight down onto the center of interest—the three-way, revolving altar, with spaces on its turntable equally divided between the Catholic, Jewish, and Protestant faiths (see photos, Page 74).


Plan
5' 0 20'
CONSOLE
CHOIR
REVOLVING ALTARS
NARTHEX
NAVE
SANCTUARY
VESTRY
VESTRY
CORRIDOR
VEST
TO HOSPITAL WARDS
PORCH
SACRISTY
JEWISH CHAPEL
PROTESTANT CHAPEL
CATHOLIC CHAPEL

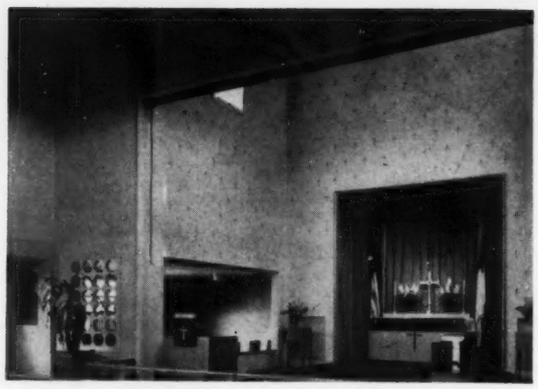


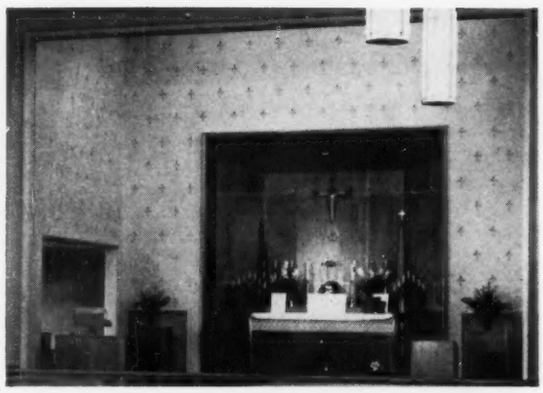
YORK AND SAWYER, ARCHITECTS

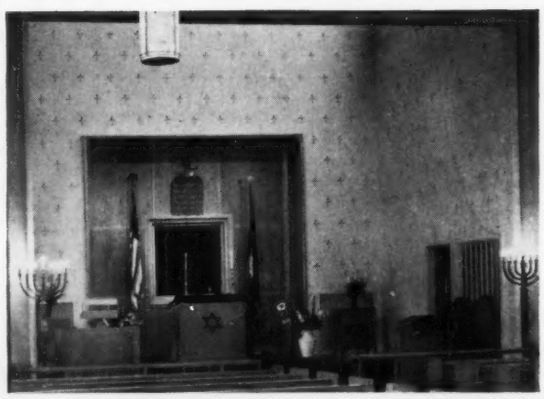
The chapel is of standard frame construction, built on concrete foundation walls and piers. Exposed trusses span the auditorium. Ceiling surfaces are of acoustical board, while walls are covered with plaster board, painted in contrasting muted tones of blue-green and sandy tan. The exterior of the building is finished with asbestos-cement clapboarding, except for the tower, where corrugated asbestos board is used.

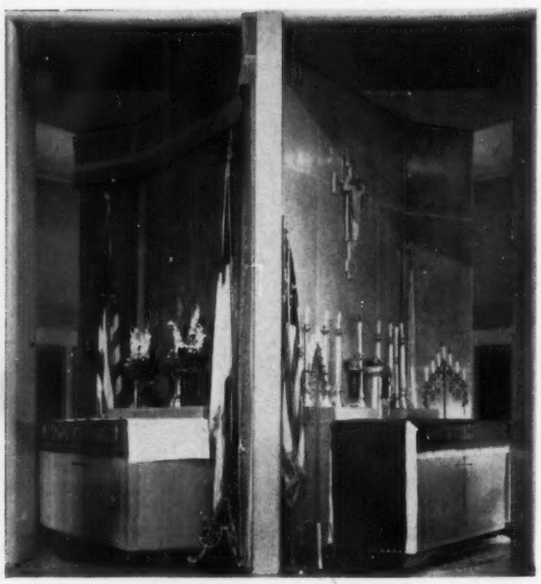
The three-way revolving altar, illustrated in the photographs at right, allows each of the three major branches of faith, literally in rotation, to make of the building a house of worship equipped with the familiar signs and symbols. The mechanism consists of a drum, its top flush with the floor of the chancel, which turns on ball bearings around a pipe axle. At the outer edge of the drum are eight supporting wheels, also on ball bearings, which ride on a continuous circular metal plate or track. The appropriate altar is turned to face the congregation during scheduled service times, and, in between times, the three altars take turns in commanding the setting, a week at a time each. The walls of the tower surrounding the altar opening are painted light tan and decorated with a blue-green, stenciled fleur-de-lis pattern. Along one side of the main chapel are three small chapels, one for each faith, which are used for incidental daily or private services or for any ceremony not requiring the full auditorium.

It might be worth while to consider whether the idea of this combined-use type of religious structure could possibly find wider application in certain civilian communities. In smaller towns, where church groups have limited budgets, it occurs to us that a pooling of resources might well produce a structure better than any one group could afford while in no way interfering with the prerogatives of the separate faiths. Not the least attractive factor might be the single maintenance problem.









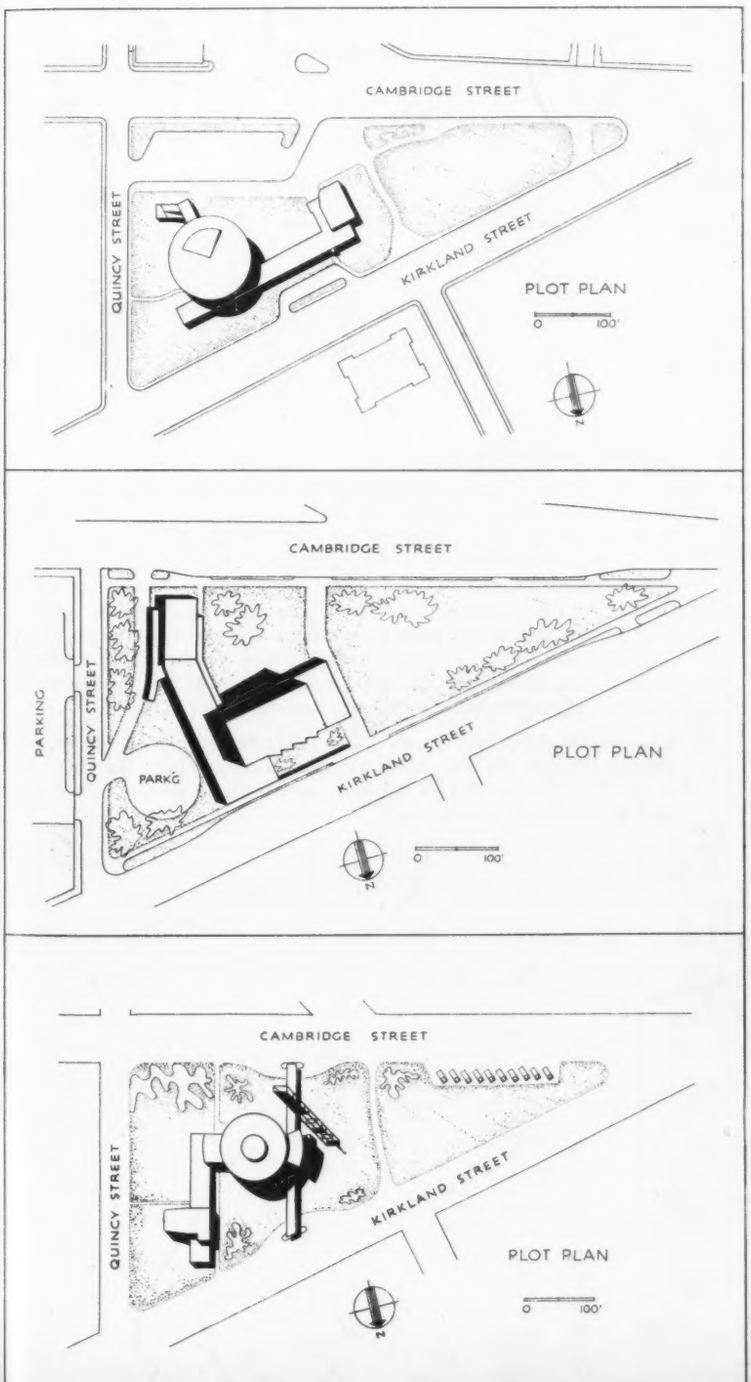
Above: the small private chapel for the Protestants. Both the Catholic and Jewish groups have a similar accommodation. Photos at right; top: the altar arranged for Protestant services; next below: the Catholic altar; below that: the chapel arranged as a Synagogue; and at bottom: the revolving altar partially turned, showing the Protestant and Catholic altars.

Three Student Solutions To A Church Design Problem

CONDUCTED AT HARVARD UNIVERSITY BY DR. WALTER GROPIUS

In an age such as ours wherein the word "Almighty" is indiscriminately applied to both God and the dollar, it is not surprising that, in general, contemporary church architecture presents so indecisive a character. All the more fortunate that architectural students, as yet not overly enmeshed in the snares of life's "realities," should undertake to discover direct answers to the problem. Here, at least, may be found a progressive point of view, an earnest wish to achieve a proper contemporary expression. The projects summarized here appeal to us as provocative cases in point.

Below, comparative plot plans. At top, design by Charles D. Wiley; center, the work of Charles G. MacDonald; bottom, solution by Norman Silby O'Sullivan.



The Program. Our unstable period of shifting social standards has much unbalanced the spiritual life of the people. As a result many have lost contact with the Church, though their religiousness has increased on account of the course of events and their longing for a new expression of faith.

Few satisfactory attempts have been made today to find a solemn, contemporary, architectonic expression for buildings devoted to worship. A designer's success in creating a work which will characterize in a contemporary way those inner human forces beyond material life greatly depends on the intensity of his vision and the direction of his religiousness, as the spiritual attitude varies greatly with the individual.

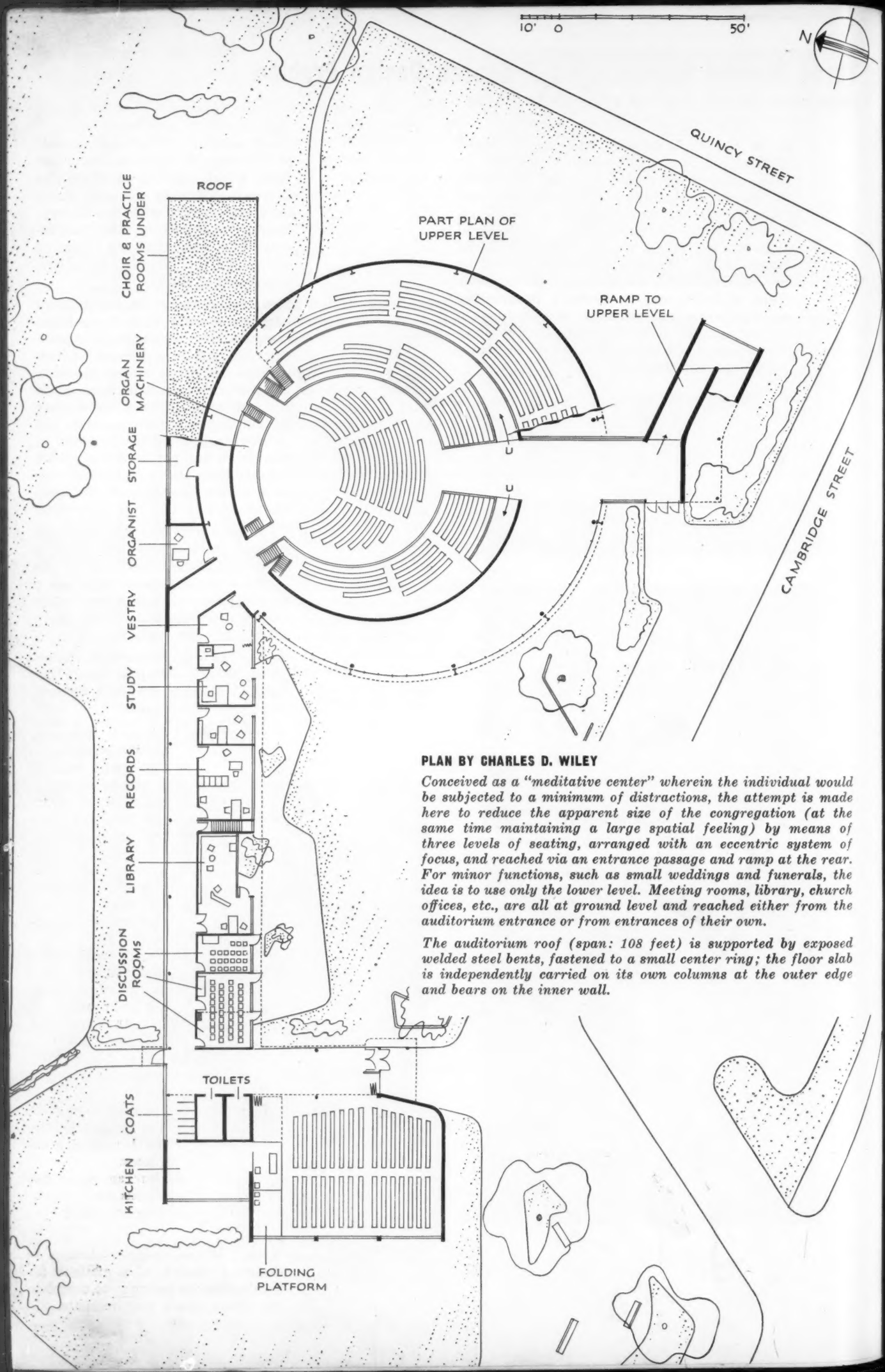
The students in trying to solve this present problem are free either to follow the pattern and ritual of one of the existing denominations or a personal conception of a community church of contemplation and meditation open for everybody.

Site. The triangular site of the existing Memorial Hall in Cambridge (Mass.) between Kirkland, Quincy, and Cambridge Streets.

Requirements.

Church proper, about 800 seats.
Choir with built-in organ, 50 seats.
Sound-proof practice room for choir with music library.
Two offices for clergymen or speakers.
Two offices for clerical work.
One office for organist.
Vestry with toilet and lavatory.
A meeting room for 200 people with kitchenette and pantry.
Three discussion rooms for 20 people each.
Reading room with 400-ft. bookshelves.
Toilets and coatrooms.
Storage space for chairs, etc.
Heating plant.

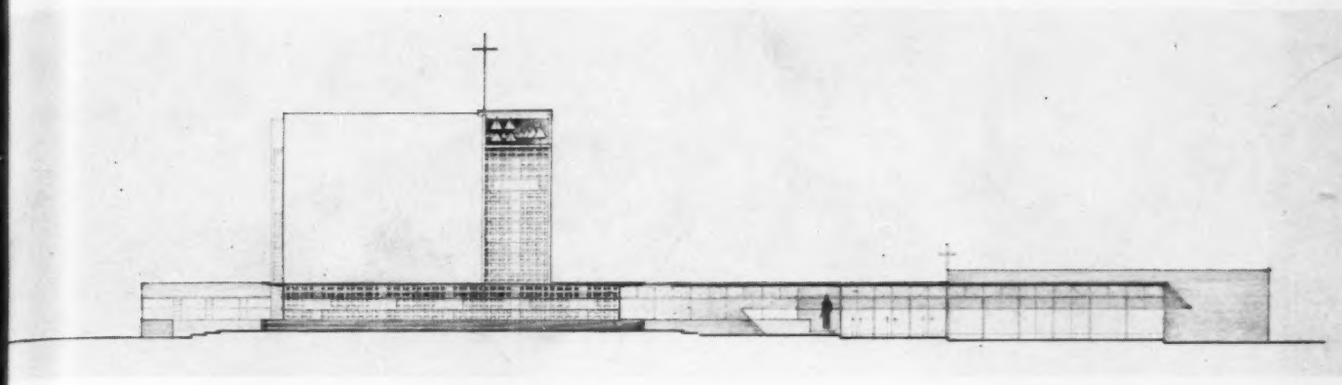
Note: If the designer chooses to design a church of a distinct denomination he has first to complete the above space requirements.



PLAN BY CHARLES D. WILEY

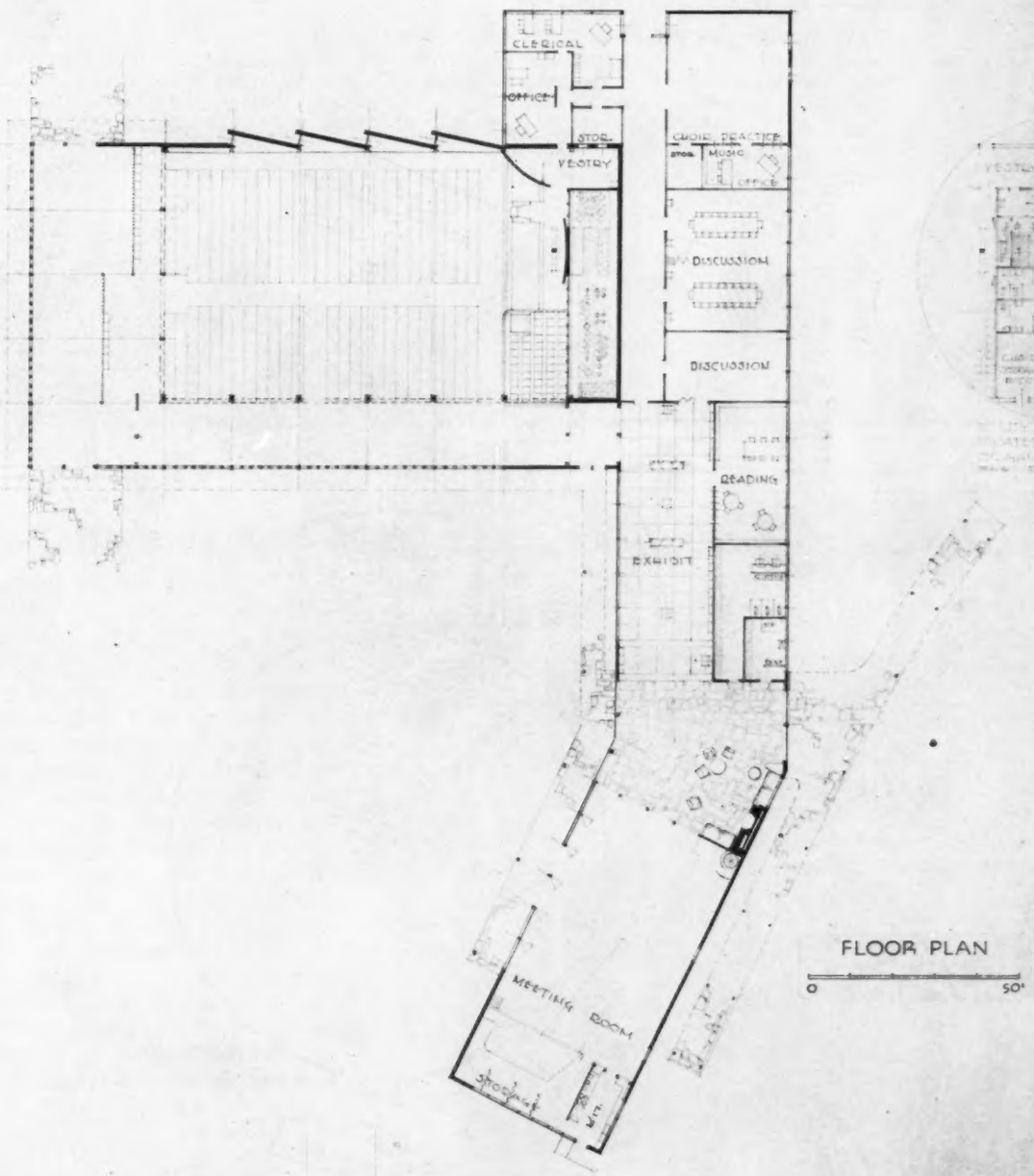
Conceived as a "meditative center" wherein the individual would be subjected to a minimum of distractions, the attempt is made here to reduce the apparent size of the congregation (at the same time maintaining a large spatial feeling) by means of three levels of seating, arranged with an eccentric system of focus, and reached via an entrance passage and ramp at the rear. For minor functions, such as small weddings and funerals, the idea is to use only the lower level. Meeting rooms, library, church offices, etc., are all at ground level and reached either from the auditorium entrance or from entrances of their own.

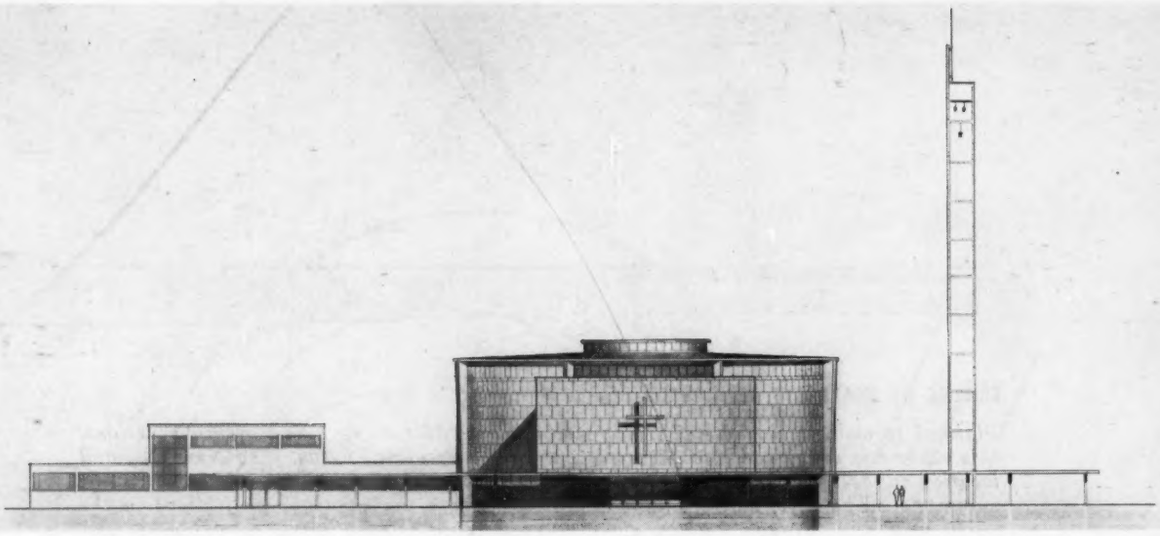
The auditorium roof (span: 108 feet) is supported by exposed welded steel bents, fastened to a small center ring; the floor slab is independently carried on its own columns at the outer edge and bears on the inner wall.



SCHEME BY CHARLES G. MacDONALD

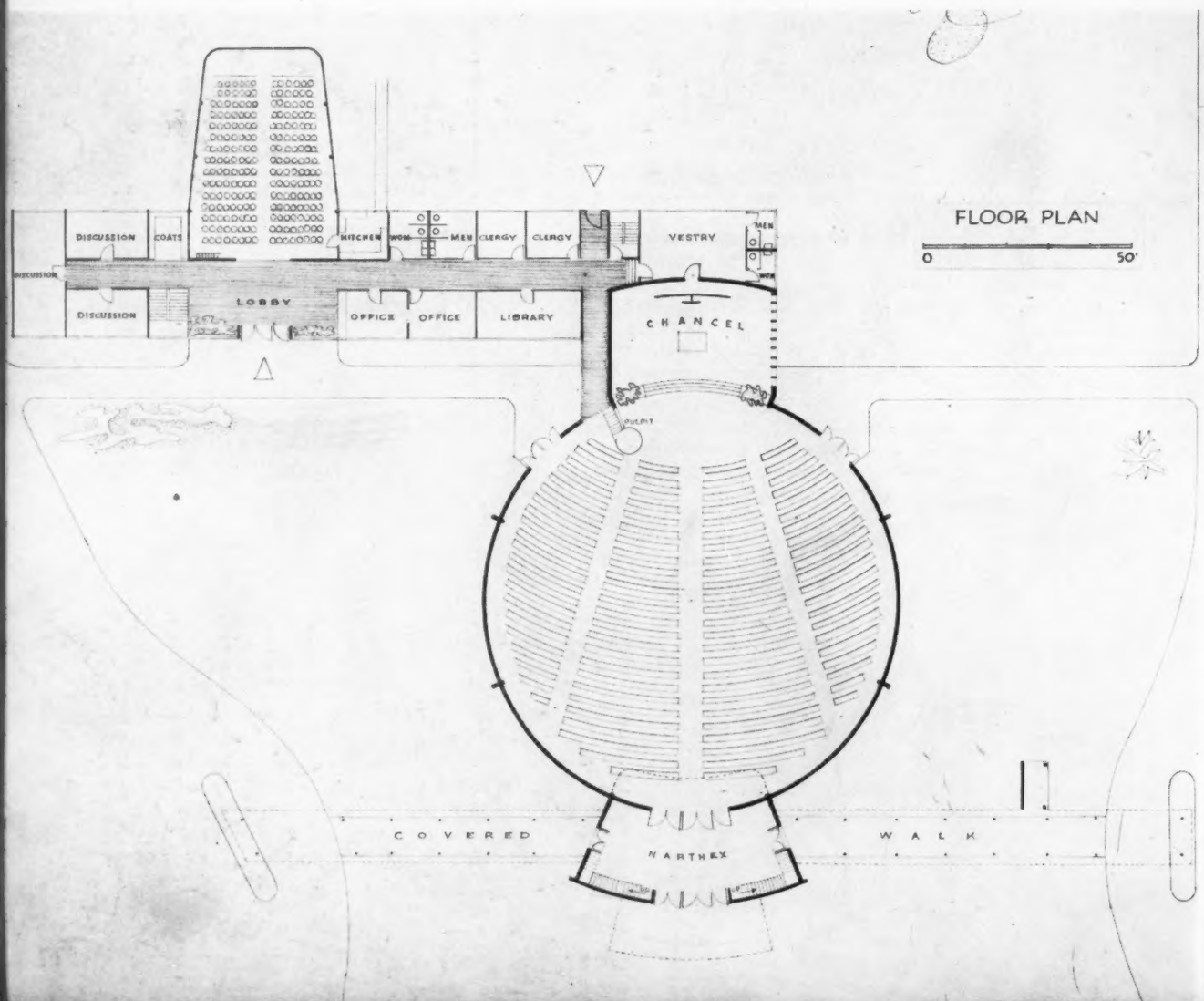
Planned to embrace social and group-meeting activities as well as worship functions, this scheme is organized into three distinct but interrelated areas. The New England location suggested brick as the chief structural material. Daylighting of the church is accomplished by soft, indirect light admitted through the sawtooth projections in the north wall and through stained glass, introduced in pierced terra cotta blocks that occur in the south wall, protected against strong sunlight by a roof projection.





DESIGN BY NORMAN SILBY O'SULLIVAN

"The circular plan was chosen," the designer tells us, "for the purpose of grouping the people nearer the preacher than is usually accomplished by the traditional plan with nave and transepts." To avoid the following and focusing of sounds around the wall perimeter, an interior wall surface made up of a series of convex-curved sections is proposed. This device, according to the designer, "would also produce an even distribution of sound due to dispersion." Auditorium construction is of two-hinged, reinforced concrete arches, connected under the floor level by tie beams.

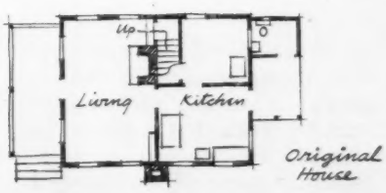


P. A. Dearborn

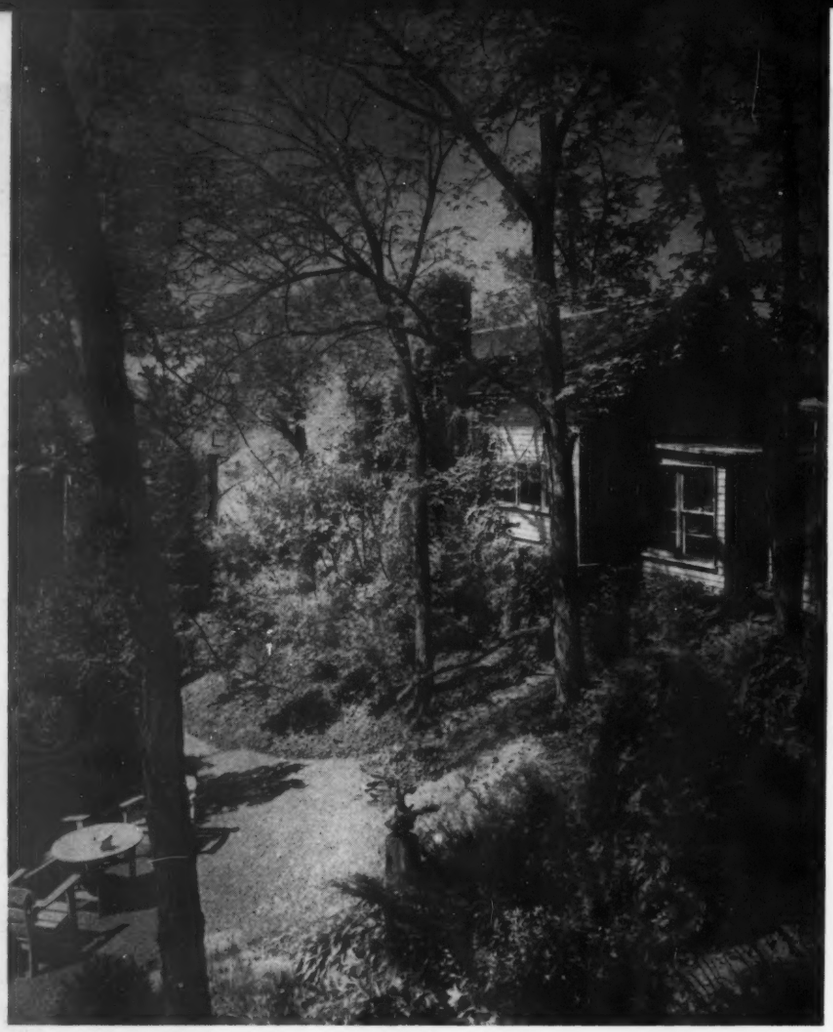
From Lake Cottage To Year-Round Home, Ithaca, N. Y.

THOMAS J. BAIRD, DESIGNER AND OWNER

It would take a long search to find a more average and uninspired little summer cottage than the one around which this project developed—an ungainly affair two rooms deep, with turned columns bordering an inadequate front porch. Hardly promising material for a contemporary scheme for living! But the site was a beautiful wooded hillside with a bird's-eye view over Lake Cayuga, and Thomas J. Baird, Architectural, Landscape, and Regional Planner, and Associate in Housing Research at Cornell University, saw its possibilities. His remarkable performance in lifting this drab little cottage up into the category of progressive residential architecture is described on this and subsequent pages.



Before



The site is, as the designer-owner puts it, "one of those rare happenstances where Nature outdoes herself." At either side (about 90 feet apart) is a glen with a waterfall pouring down from the wooded hillside toward Lake Cayuga. In front of the house and considerably below it is the wide expanse of the lake itself. Recreational opportunities offer themselves on every hand—swimming and boating, picnicking, hiking, gardening, country life to suit almost any taste. In addition to all this, it is only seven minutes' drive from the center of town or from the campus of Cornell, where both Mr. Baird and his wife teach. And in addition to all that, the property was for sale for only $2,000.

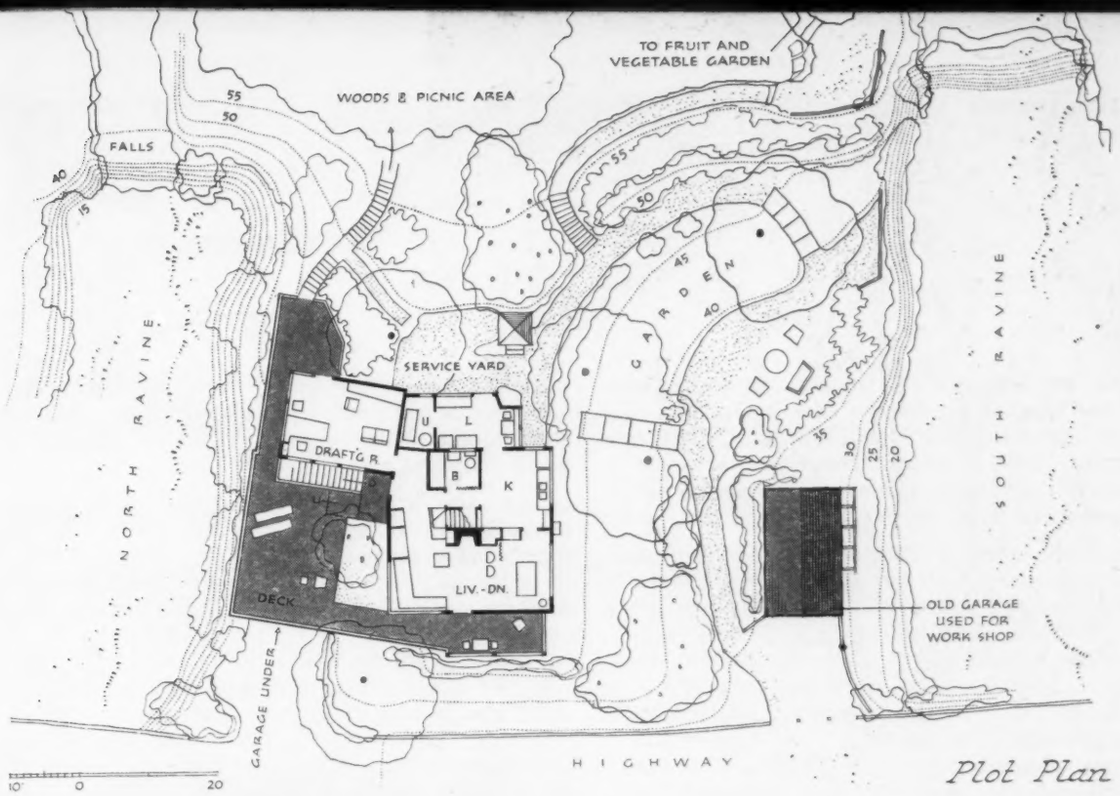
An initial and personal decision controlled the Bairds' approach to the remodeling. "We definitely decided that neither the house nor the garden should ever become such an encumbrance that it should keep us from enjoying this 'find.'" So, instead of much expanding or anything remotely connected with stylistic detailing or elegances, their decision led them to think in terms of "a 'minimum' house, the smallest investment possible, avoidance of rooms that are bigger than necessary and a minimum of possessions and things that require time-keeping upkeep." In creating their garden on a luxuriant gentle slope off the kitchen corner (photo above), the approach was the same—"a garden planned so that very little of it would require upkeep—in fact," as the designer sums it up, "in an avoidance of all the luxuries which the freedom-from-care philosopher cannot afford to indulge in." Essentials, in the Bairds' scheme for living, consisted in only those things that they felt necessary to carry on a gracious life in these fortunate surroundings.

For our part as editors, we should like to point out that only through the use of contemporary design thinking and tools could so much have been accomplished so simply. And, with this house as an example, we should also like to emphasize the part that good architecture can play toward making people's lives what they would like them to be—a progressive approach of a high order, in complete distinction to the doctrinaire approach of architectural authoritarians of the Gothic or Functional Schools.

The plan hardly needs explanation. Everything is organized in relation to the site's amazing advantages. The garage deck and other porches or terraces are all schemed "to provide protection for every sort of outdoor weather from sunny March to sunny November days, and the connecting catwalks and paths and steps create an illusion of much greater space than actually exists on the narrow lot."

The "drafting room" addition is what Mr. Baird calls the "safety valve" of the house, and it was designed to avoid the difficulties which usually beset a minimum house, "taking care, as it does, of all the 'extra' occasions—picnics called indoors by rain, unexpected guests, etc."

Placement of the bathroom, the designer admits, is thoroughly unorthodox and disregards standards for bathroom planning. "Nevertheless (with the exception of a few embarrassing moments during parties) it has served us admirably." There is more to its location than meets the eye, however. In Winter, during the day when no one is home, it is necessary to heat only the three service rooms—kitchen, bath, and utility. Result: "Our fuel bill is but $50 a year."


TO FRUIT AND
VEGETABLE GARDEN
WOODS & PICNIC AREA
FALLS
55
50
40
15
NORTH RAVINE
SERVICE YARD
GARDEN
45
40
55
50
SOUTH RAVINE
35
30
25
20
DRAFTG R.
U
L
B
K
D
D
D
LIV.-DN.
DECK
OLD GARAGE
USED FOR
WORK SHOP
GARAGE UNDER
HIGHWAY
10
0
20

Plot Plan

No change has yet been made in the small second floor of the house—"because we did not feel it was necessary." It consists of a pair of small bedrooms, divided by the stairway, "both of which, though low, are comfortable both Winter and Summer. . . . Some day we will give them more windows, however."

The exterior of the house is surfaced with cedar boarding, painted gray-green to blend with the mossy rock ledge in the glens. The thin window jambs are a faded rose color. The living deck, placed in a sheltered corner of the house, commands a nonesuch view of the lake. All detail is of the simplest and, as the photographs on these pages show, different arrangements of furniture adapt it variously as a broad outdoor living room for entertaining or as an inviting place for casual relaxation. The curiously open detail of the carport below is explained by the designer's wish to "allow as much view through it from the road as possible, to satisfy the passerby's natural interest in the north falls and glen."

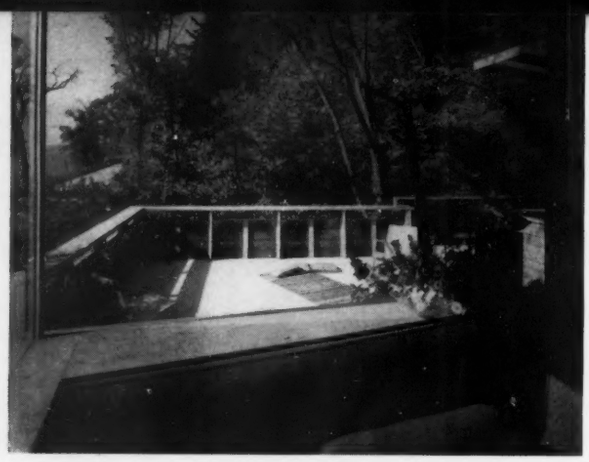
In both the floors and walls of the house, a layer of insulation was introduced into the construction; underflooring is of plywood. Numerous construction savings were worked out—elimination of practically all millwork; fixed glass used for simplified construction and weatherproofness; use (in the kitchen and utility) of old double-hung windows turned sideways to work as a bank of horizontally sliding windows; ¾-inch plywood for cupboard and closet doors. Even the garage doors are ¾-inch plywood—"satisfactory to date"—and the interior doors have no hardware, except hinges and catches. The knobs are wood.

The carport below the living deck was made as open as possible to maintain a view of the glen beyond.

All interior finish, including ceilings (plywood), is of natural wood. Scored plywood surfaces the walls and built-in work of the living room. The living-room floor is covered by a broadloom carpet; elsewhere, floor surfaces are linoleum. Fluorescent lamps occur in the drafting room, above the dining table, and in the kitchen. The house is heated from a forced warm air furnace. The total bill for remodeling came to $4,000!

THOMAS J. BAIRD, DESIGNER

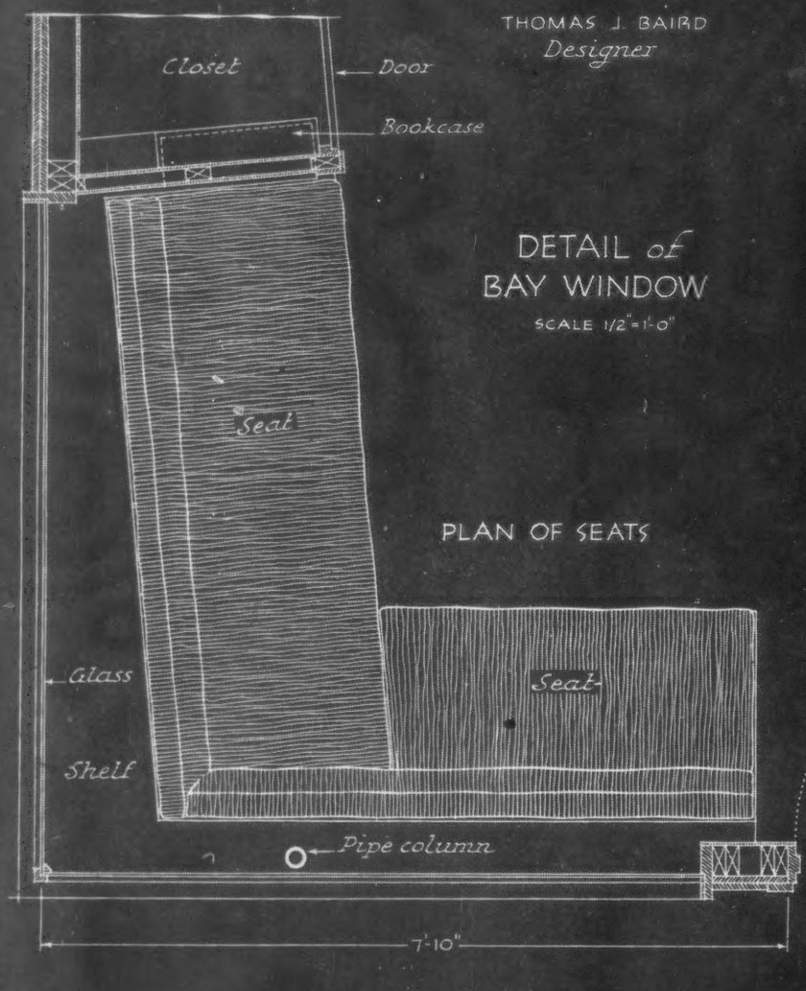
"The living room, with its long seat, carpeted floor, broad stool and pillows, provides for both Winter social evenings and easy-going day-to-day living."



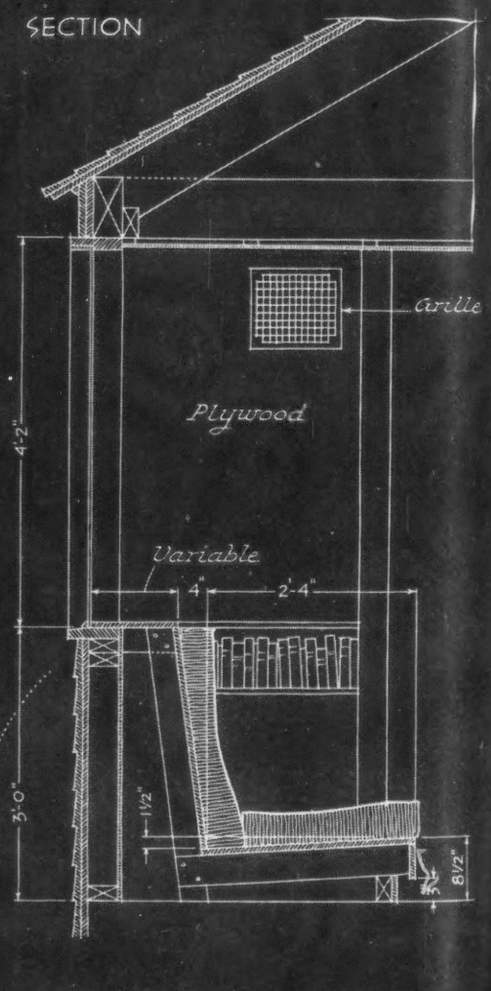
THOMAS J. BAIRD
Designer

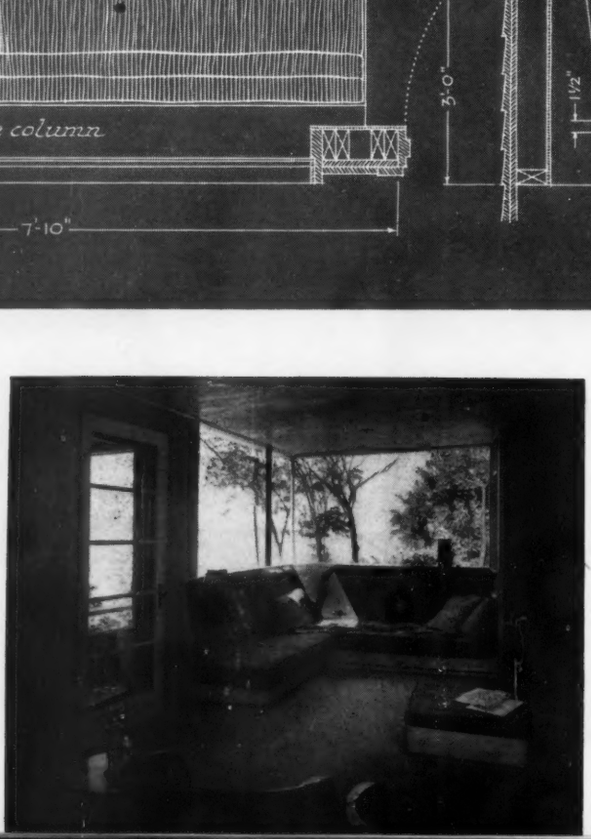
DETAIL of BAY WINDOW

SCALE 1/2"=1'-0"

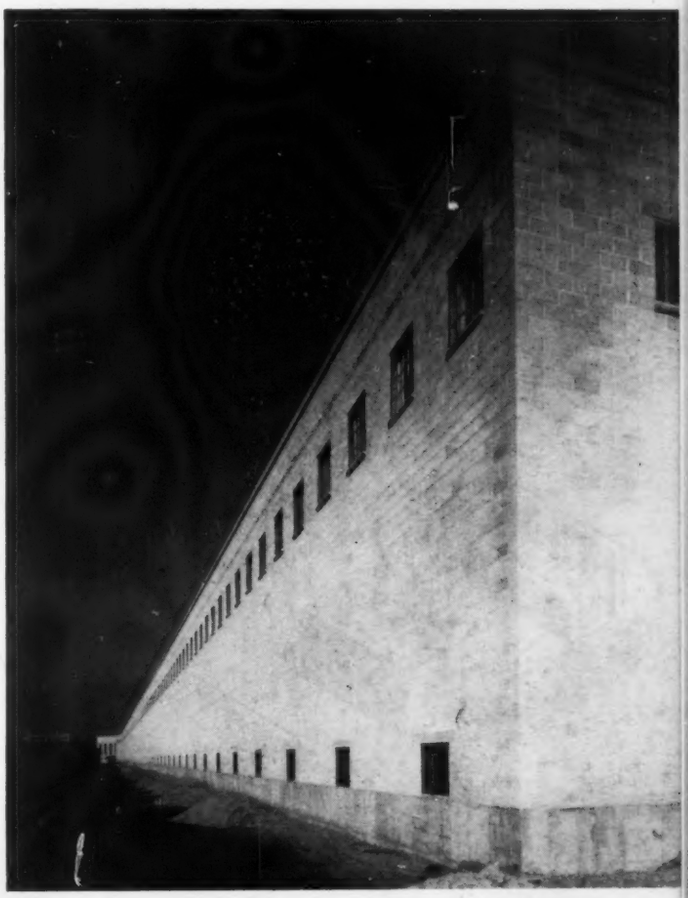


SECTION





SELECTION AND USE OF CONCRETE BLOCK



U. S. Army's Postal Concentration Center, Long Island, N. Y., where concrete block was carefully selected for texture and structural suitability. Alfred Hopkins and Associates, Architects.

Concrete block, available for many years, has possibilities far greater than its common use where it won't be seen. For example, it can be obtained in various surfaces, colors, and textures; its strength can be varied to suit the intended use; it can be made with thermal insulation and acoustic properties. Like any other building material, concrete unit masonry can be used carelessly with sad results, or employed with care and discrimination to produce work good from any point of view. Since thorough knowledge of a material is necessary before it can be used intelligently, this article cannot be regarded as exhaustive; but in it are included the types and sizes available, their manufacture, indications of their use, and means of obtaining a high quality of work when using them.

KINDS AND SIZES

Concrete building units are available in a wide variety of standard shapes and sizes to fill virtually every construction need. Sizes of "quality" concrete block conform to modular dimensions; standard units are made 16" long, 4" to 12" thick, 8" high (including joint allowance). To provide for random ashlar patterns, block are also made from 4" to 24" long, and in various heights. Block are classified as load-bearing or non-load-bearing; types available include: *building units, partition* and *back-up units, filler tile, surfacing units, chimney, joist, sash* and *jamb units,* and *slabs.* Drawings on pages 88 and 89 show the most frequently used kinds and sizes.

Texture of block surfaces varies from coarse to fine, according to the grading of the aggregate used. Block of lightweight aggregate have better acoustical properties than those made of heavy aggregate, and greater thermal insulation value.

MANUFACTURE

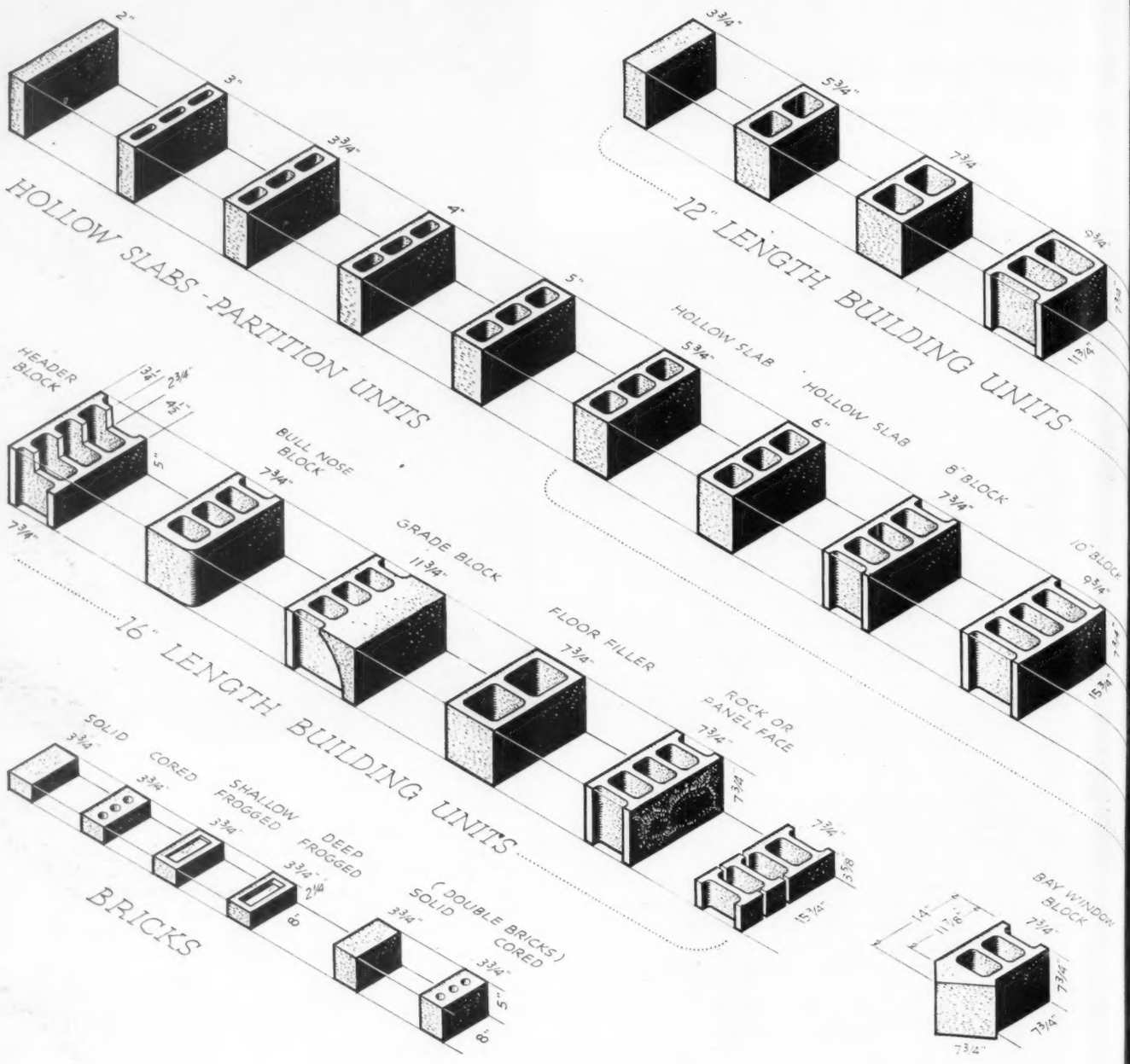
A.S.T.M. and Federal specifications, and the A.S.A. Masonry Code, contain quality requirements for concrete block; all the designer need do to insure standard quality is to require that block meet these specifications. Color, texture, and other non-standard requirements should be specifically described.

Concrete block are a combination of portland cement, aggregate, and water, usually in a mix such that surface texture can be controlled easily and forms re-used rapidly. A wet mix is sometimes used to secure a very dense surface and to obtain web markings which may be desired. Too wet a mix, because it produces a block which will slump if forms are removed too soon, prevents rapid production. Too dry a mix produces block of poor strength.

Cement is proportioned in accordance with the amount and characteristics of the aggregate used. Portland cement meeting specifications of the American Society for Testing Materials should be used. Some experiments have been conducted on block made with air-entraining portland cement, as a result of which it is claimed that a mix can be used sufficiently wet to achieve maximum strength, without danger of slowing the manufacturing process.

Aggregate must be clean, well graded for size, and free from acid, alkali, industrial waste, or frozen material. Both natural and artificial aggregates are used; all fall in one of the following categories: sand, fine gravel, crushed rock, heavy slag, expanded slag, burned shale, cinders. Both manufacturers and such associations as the Portland Cement Association and National Concrete Masonry Association are constantly testing new aggregates. Manufacturers can furnish various types of artificial aggregates which are usually sold under a brand name, such as: *Gravelite, Tuf-Lite, Waylite, Cel-Seal, Super-Rock, Haydite,* or *Celocrete.* Most manufacturers usually have available more than one of these materials, so that a proper aggregate can be employed in making block to meet specifications exactly. Sand and gravel combined form a "heavy" aggregate which is used in approximately 60% of the block manufactured today. For many uses, such "heavy" block may be found superior to or more economical than lightweight block. For instance, the extensive development of concrete masonry in Florida, where hurricane-resistance is a factor, is based on use of such "heavy" block.

Water is extremely important. Water should be potable, the mix semi-wet for reasons previously explained. Quantity of water, as well as of cement, is determined by the kind of aggregate employed. Each block manufacturer, knowing the cement and aggregates available locally and his



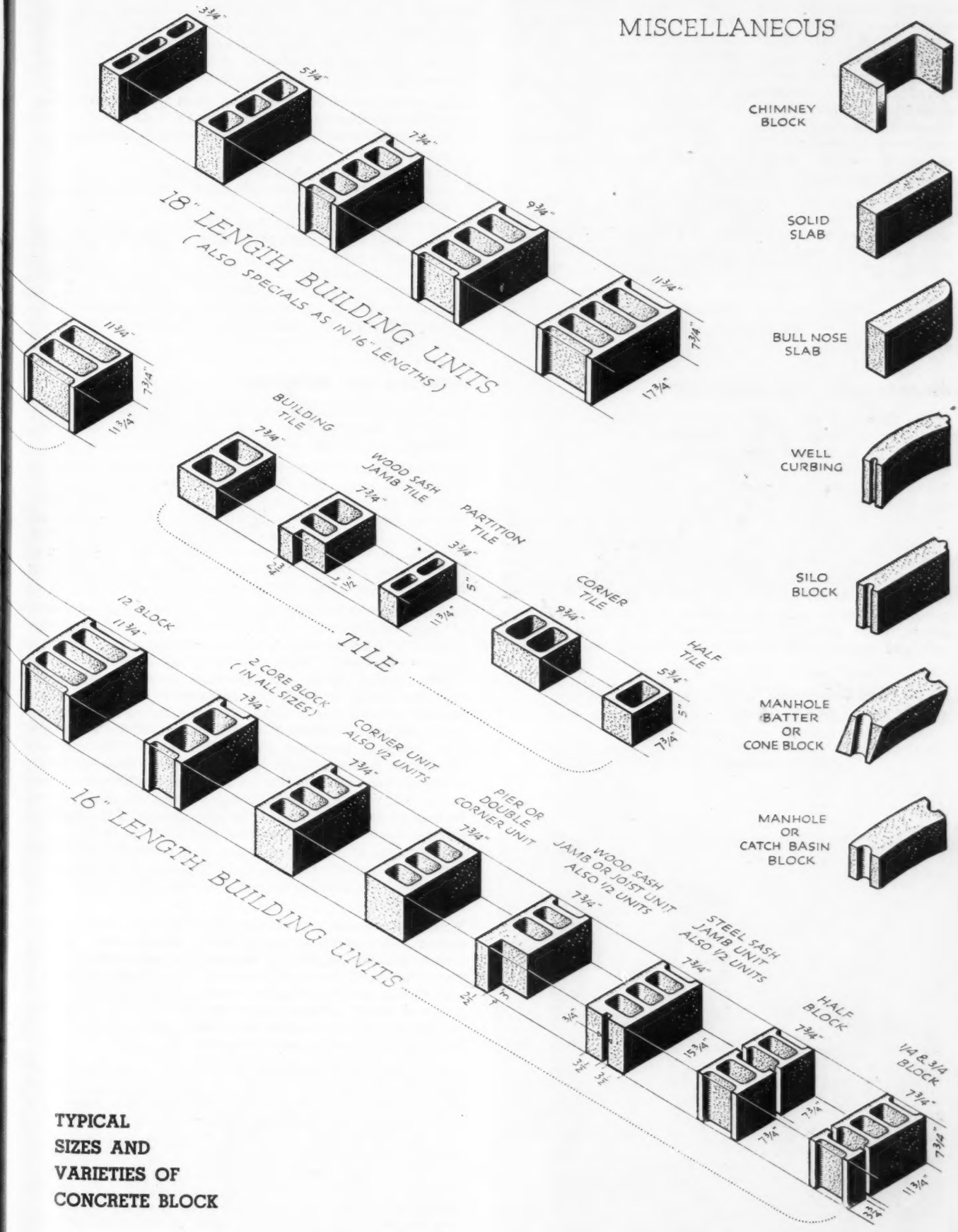
own production methods, has developed his own formulae; using these, he can produce block which conform to A.S.T.M. standards, particularly as to strength.

Mixing thoroughly is necessary to produce block that are structurally satisfactory. Properly mixed materials will result in block with firm, true edges, even, regular surfaces, and the desired strength.

Forming the block is greatly facilitated by the use of modern machinery; this includes mixing, discharging, and molding equipment. In the mold the mixture must be vibrated or tamped well to insure complete filling of the mold, homogeneity, strength, density, durability, and desired surface texture of the finished product.

Color. The various aggregates produce differently colored block, ranging from an off-white to gun-metal gray, or from light tan to brownish shades. A wider range of color can be obtained by using in the mix commercially pure mineral pigments singly or in combination. Integrally colored block can be produced with the following pigments:

Blues: cobalt oxide
Browns: brown oxide of iron
Buffs: synthetic yellow oxide of iron
Greens: chromium oxide
Reds: red oxide of iron
Grays, slate colors: black oxide of iron or Germantown lampblack, preferably iron oxide. *Never* use common lampblack.



TYPICAL SIZES AND VARIETIES OF CONCRETE BLOCK

Curing. Concrete block, like any concrete, will not cure properly unless satisfactory conditions of moisture and temperature are provided. Methods of controlling these conditions vary, and there are controversies regarding the relative value of various methods. This is primarily a manufacturer's problem; use of the standard specifications referred to enables architects to obtain desired standard properties in the finished product entering such arguments. However, knowledge of the subject, by contributing to the architect's knowledge of the material, will aid intelligent use of the product. Briefly, there are two general methods of controlling curing conditions.

1. Low pressure and high temperature curing is done in rooms where temperature is maintained at 100 to 180°F, with saturated humidity produced by directly introducing live steam. This first increases the rate of hydration of the cement; after this, block should be stored until moisture content is reduced to A.S.T.M. standards.

2. High pressure curing requires the block to be cured for about 8 hours in high pressure cylinders under pressures approximating 125 lb. per sq. in.

OBTAINING BLOCK TO FIT REQUIREMENTS

While there is a wide variety of sizes and shapes normally available, and although it is possible to cut, chip, or saw block to fit special job requirements, it is more economical to design in terms of standard shapes. Also, some manufacturers regularly carry special types of block; from them can be obtained lists of special sizes or shapes which are carried in stock or can be made to order with little difficulty.

In selecting block for specific uses there are certain characteristics which require attention. Strength is one; block with an average compressive strength of 1,000 lb. per sq. in. are suitable for exterior walls below grade and for unprotected interior walls above grade. For general use above grade, when protected from weather with two coats of portland cement paint or other satisfactory waterproofing, compressive strength may be reduced to 700 lb. per sq. in.

Texture of the block: rough texture is desirable for such uses as partitions where plaster or stucco will have to bond directly to the block. Fine texture is suitable for exposed interior or exterior surfaces, either painted or natural. Coarse texture can be used on exteriors if properly painted.

Judging quality of block will be aided by careful inspection of the product for such qualities as:

1. Consistent, true, regular dimensioning in modular proportions.
2. Firm, sharp edges and corners.
3. Even-textured surfaces free of defects (blemishes, cracks, pits, markings).
4. Strong, firm webs with true edges.
5. Wide bedding surfaces permitting compliance with building regulations.
6. Even color and texture (indication of thorough mixing).
7. Agreement between manufacturer's statement and Federal or A.S.T.M. specifications as to absorption, strength, moisture content; satisfactory statement as to details of manufacture, curing, etc.

On the Postal Concentration Center, concrete block was used even for pierced walls at entrances.

STRUCTURAL USES AND METHODS

Interior partitions, non-load-bearing, may be constructed of a single thickness of block, 4″ thick. This can be painted, plastered, or finished as desired.

Exterior walls above grade may consist of one or two withes of concrete units (for double withes see "cavity walls"). Single-block walls 8″ to 12″ thick can be rendered reasonably weatherproof if dense, homogeneous block are employed, and the wall is properly flashed and its exterior face waterproofed. However, condensation will occur on the inner face in some cases, so that interior finishes are preferably furred out (see also "flashing" and "waterproofing").

Cavity walls (exterior, consisting of two parallel withes of masonry separated by a continuous 2″ air space) offer positive protection against moisture penetration if they are properly designed. There should be no path for moisture which, despite all precautions, may conceivably penetrate the outer withe, to reach the inside withe; wall ties should be selected with this in mind. Current design and construction practice, as reflected in publications of the Structural Clay Products Institute, National Housing Administration (Technical Bulletins), etc., require adequate flashing, proper workmanship, and quality of materials sufficient to keep water out of the wall. Extensive tests at the National Bureau of Standards and in the laboratories of the Portland Cement Association demonstrate that this can be done. The interior face of the inner withe of a properly constructed cavity wall is dry enough to permit any good paint—oil, resin emulsion, casein, etc.—or any desired finish to be applied directly.

Walls below grade require protection against moisture penetration. If there is no static water pressure, two coats of cement plaster, applied on the exterior, may suffice; but if the water table is above basement floor level, or there is any likelihood of conditions which might result in water pressure (such as dense soil with poor drainage), it is desirable to use continuous membrane waterproofing of the floor and walls well above the point of danger.

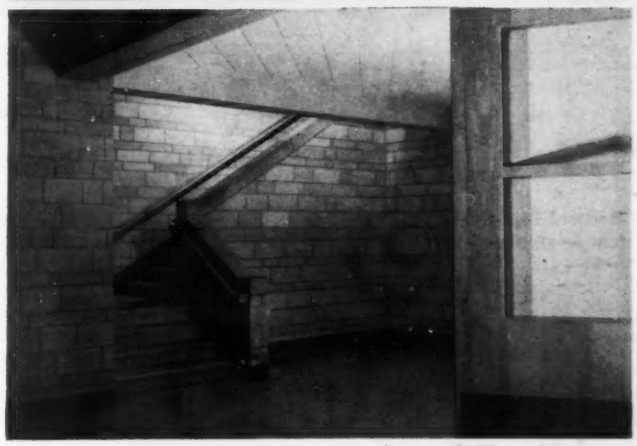
Floors may be economically constructed by using concrete filler tile. Floors laid directly on grade can have whatever fill and waterproofing are required; over this, rows of 4″ filler block can be placed, spaced from 2″ to 4″ apart. Over this the desired mix of concrete is poured to a depth of at least 2″ above the tile. This method of construction is useful when a deep slab is required; it may be reinforced; it provides a degree of insulation against low soil temperatures; its surface can be finished in the same manner as any concrete slab. For floors above grade there are available wedge-shaped floor filler tile for use similar to any of the clay tile floor systems.

Structural elements and services. Wood and metal door casings, window sills, furring, baseboards, and trim of all kinds can be nailed directly to lightweight concrete block, which holds nails. Electric conduit and many plumbing lines can be run vertically in the voids of the block. Access panels, apertures for outlets, switches, faucets, horizontal piping, etc., may be cut in the block. If chases are used, special concrete units may be used to close the chases, and "broken" joints may be employed to match the remainder of the wall so that no evidence of the chase will show on the face.

Thermal expansion, reinforcing. There are too many factors involved in thermal expansion to permit a full discussion here. Large areas of concrete masonry normally require expansion joints; their design and placement is an engineering problem on which competent assistance should be obtained. Other pertinent questions include: How about contraction joints? Has the building a structural frame? How close are the columns? What kind of floors are included? Where are the openings placed? How is the building fastened to its foundation? Where is the building located—southern California or northern Minnesota? What was the condition of the block when laid? What time of year? What mortar (some mortars may expand ½ per cent or more)? What width of mortar joints? What tensile strength of units? There are many others. If, for any reason, reinforcing is necessary in wall construction, rods should be installed in horizontal face joints, ½" back from the face, with the rod completely encased in mortar.

Waterproofing, flashing, damp-proofing. To waterproof exterior faces of walls above grade at least two coats of portland cement paint—not an oil-base paint—should be used. The first is a seal, the last a finishing coat. Paint should meet specifications of the National Bureau of Standards; application should follow manufacturer's directions. This type of paint is available in several colors, and can be used as a finish on both exterior and interior surfaces. It will not waterproof walls when applied to interiors. Some manufacturers recommend that walls stand 30 days before painting, so that paint will seal any shrinkage cracks in mortar. Waterproofing for floors and walls below grade has been discussed previously. Flashing should be used even in walls one block thick, at joints and apertures where moisture may collect, around window and door frames, etc. Damp-proofing courses, not always used in this country, are desirable, particularly when it is likely that excessive soil moisture may rise and keep the wall damp.

Storing, handling, and laying concrete block. Keep block dry and clean; store on platforms, keep covered during rain and overnight; similarly cover walls under construction. Patterns for block usually provide hand-holds at both ends, placed to facilitate proper setting. Block should be laid with the wider edges of the webs up; when the next block is laid on top, narrow edge down, mortar is forced up inside the core to give better bond. For average work, mortar may be of 1:1:6 mix, using portland cement, lime putty, and clean, sharp sand; water must be of potable quality. Higher cement content is usually required for work below grade. Integral coloring may be used. Mortar bed should be placed on outer cell walls, never on webs; vertical joints should have only the vertical webs buttered with mortar. No mortar or droppings should be permitted in the hollow cores unless cores are to be filled for inserting anchors or similar purposes. It is the practice in some localities to lay across the cells a board sufficiently wide to cover the cores, but narrow enough to permit proper mortar placement. Excess mortar should be so cut off that mortar is not pulled away from the surfaces to be bonded. If masonry is being laid up to modular dimensions, joints should be ⅜". Block should be laid plumb, square, and true, with cells vertical. Corner block have finished return ends, and should be of a length which will preserve the bond pattern. In cavity walls it is particularly important that no mortar drop into the cavity; if any falls in, it must be removed.



Above, two interiors of the U. S. Coast Guard Hospital, Sheepshead Bay, N. Y., Alfred Hopkins & Associates, Architects, showing (top) paint applied directly to interior concrete block partitions and walls; and specially selected block, laid up with raked mortar joints, in the stair hall. Below, interior of living room with walls of exposed concrete block, house in California, William Wilson Wurster, Architect.

Harold E. Waltz

Proposed Faith Hospital, St. Louis, Mo.; Joseph D. Murphy, A. G. Corrubia, Associated Architects. View shows maximum sun penetration in winter.

DAYLIGHTING FOR HOSPITALS—Part I

By ISADORE ROSENFIELD, Architect and Hospital Consultant

This is the first of two parts of an article on a subject in which interest has increased tremendously. The second will be published in February 1946.

We associate with hospitals the two concepts of cleanliness and light. Yet are hospitals amply DAYLIGHTED? Before you answer, examine critically any hospital you're familiar with; you'll probably find it is not. And why shouldn't cleanliness and daylighting be characteristic also of public buildings, factories, shops, and so on? Particularly in the case of hospitals, is good daylighting important?

SHOULD DAYLIGHTING BE BANISHED FROM BUILDINGS?

No one has yet built a hospital, school, or house completely without windows, but other structures have been so built. Once an engineer-inventor, suggesting that I wasted the public's money by designing hospitals with windows and balconies, urged me to use windowless wards; in them a patient would be connected to two pipes, one marked "fresh air," the other, "vitiated air."

That suggestion may be in the lunatic fringe, but consider windowless factories. They emerged just prior to the war as an answer to the need for "controlled conditions;" that is, for complete control over atmospheric conditions, including heat, light, humidity, air cleanliness, etc. During the war, of course, they also met the problem of blackouts. There is no question that precision production requires a high degree of atmospheric control; but there is probably a fallacy in the assumption that atmosphere control and windows are incompatible. Only when control of light is essential to an extremely high degree, so that normal fluctuation in quantity and quality of daylight becomes intolerable, is the assumption justified. Indeed, with modern techniques and contemporary glass products it is entirely possible to achieve a high degree of control of daylight distribution in the interiors of buildings, even when considerable glass is used. In a recent building for the Sperry Gyroscope Corp. in Long Island, N. Y., for instance, there is a substantial amount of glass enclosing a very precise manufacturing operation.

As for the psychological factor—an extremely important one—factory workers have stated that while they like the comfort of controlled conditions they also like glass enough at least to see what the weather is.[1]

People *like* fresh air and natural light; whether the reaction is emotional or not is important. No matter how good artificial light is (and with modern equipment it can be excellent) it cannot wholly supplant the natural product unless our whole concept of living and comfort changes. Before natural means are abandoned, studies should be made to establish a basis for evaluating artificial means. In factories such studies might indicate the actual relative output of windowless and windowed plants, also the relative rates of absenteeism due to illness from respiratory infections. We have both kinds of factories producing comparable goods; they should furnish examples for comparative study.[2] In these days when psychosomatics, "the emotions that make us sick," are gaining increasing recognition as powerful factors in human behavior, the psychological value of good natural light deserves full consideration.

[1] *Last Word In Factories*, *Fortune*, May 1945; *Windows or Windowless*, *Weekly Bulletin*, Nat'l. Council of Arch. Reg. Boards, October 9, 1945.

[2] Such a study has been made in England: *An Experiment in Lighting*, Messrs. Ferranti, Ltd., Hollinwood, Lancashire (Vitaglass Corp., N. Y. C.).

WE KNOW SOMETHING ABOUT USING DAYLIGHT

A great deal is known about "daylight designing" for factories and schools. Investigation of publications of the Illuminating Engineering Society indicates that illumination of a desired intensity on a working level can be produced with almost the same exactness with daylight as with artificial illumination. In factories, where such practice pays the most tangible dividends, application of these design principles is common; but museums and many schools are still daylight-engineered by guesswork, and most houses by intuition—if at all. (This was obviously true in the submissions for a recent architectural competition in which the maximum use of glass was required.) The British Government, through its Building Research Station, has prepared a valuable series of publications called "Postwar Building Studies," of which No. 12 is: *The Lighting of Buildings.*[8] In it daylighting, particularly of dwellings and schools, is treated. Similar publications are listed below, and in justice to the architectural profession it must be noted that architects are responsible for most of them; also, that at least one School of Architecture, that at Columbia University in New York, teaches students to analyze their work in terms of orientation for sunlight. Yet, of the two kinds of illumination, natural and artificial, natural lighting has received far too little practical attention from either the general public or the building designer. The compelling technical problems of artificial lighting have engaged the major portion of our attention; we have neglected the relatively simple problems connected with daylighting. If we are to put daylight to work for us with comparable efficiency we must ferret out its potentialities and arrive at ways of using it well to achieve better vision and psychological satisfaction, and to combat disease.

IS DAYLIGHT A LIFE-AND-DEATH MATTER?

To narrow the subject to hospital design, good daylighting is of great import to hospitals for precisely those three reasons: *proper vision, psychological effect,* and *protection from cross-infection.* As to vision, it is important in the hospital to be able to read a thermometer readily and to see abnormalities in color of skin, lips, finger nails, wounds, pus, and all the other symptoms in terms of which the most elementary clinical procedures are taught and practiced.

Equally important are the psychological factors. A moribund patient may be beyond caring whether the sun shines or not, but even this may not always be true. A very sick

[8] *Museographie,* Ch.III, "Eclairage Naturel et Artificiel," by Isadore Rosenfield and Clarence Stein; Office Internationale des Musées, Paris.

The Lighting of Buildings, in which P. V. Burnett, F.R.I.B.A., and F. Jackman, A.R.I.B.A., collaborated; Postwar Building Studies, No. 12. British Ministry of Public Works. Available in U. S. from British Information Services, 30 Rockefeller Plaza, N. Y. C. 75 cents.

Solar Radiation, study by H. N. Wright made for J. B. Pierce Foundation, 1936, now available through Robert L. Davison Assn., N. Y. C.

Recommended Practices for Lighting California Schools. Calif. State Dept. of Education, Sacramento, Calif.

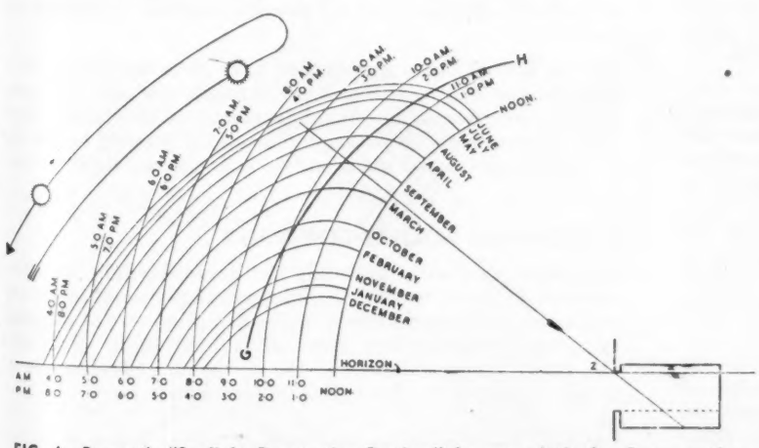


FIG. 4—Burnett's "Sunlight Penetration Section," for same latitude. Room section is placed with window head or edge of sunshade at Z. Line GH is plotted from data obtained from FIG. 3. Line from any point on GH through Z gives sun penetration at indicated time.

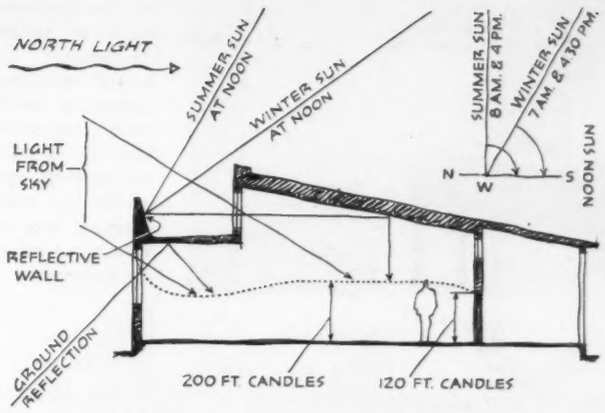


FIG. 1—Daylighting levels obtainable in school classrooms with clerestories.

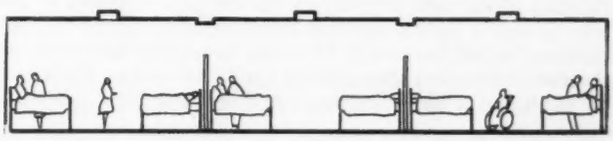


FIG. 2—Section through Riggs ward showing low partitions. Similar cubicle divisions in contagious wards provide limited assistance in controlling spread of infection.

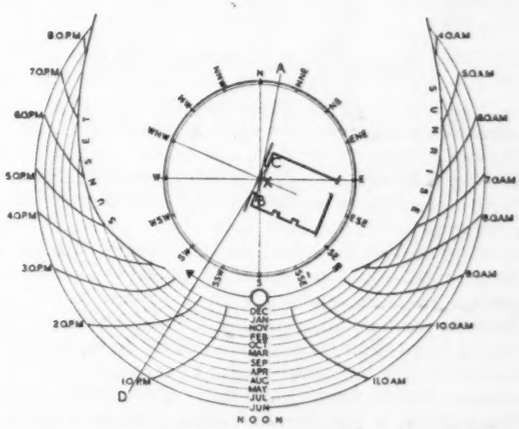


FIG. 3—Burnett's "Sunlight Penetration Plan," calculated for lat. 52°31' N. In center is plan of room under study. Plan is oriented; sunlight will penetrate during hours indicated between lines AB and CD.

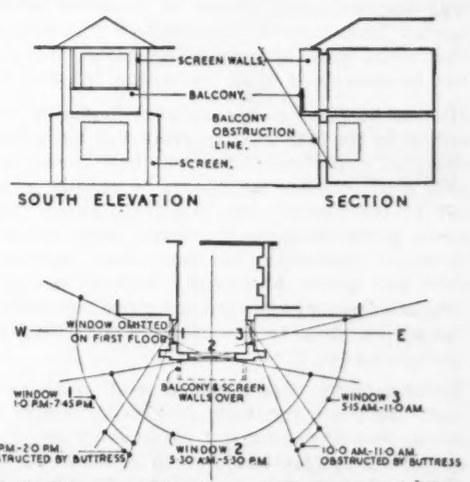


FIG. 5—Diagrams indicating use of screen walls (buttresses) and balcony to exclude sunlight when not wanted, hours of penetration having been determined on Burnett diagrams.

Figs. 3, 4, 5, 6 from Postwar Building Studies No. 12, "The Lighting of Buildings," Ministry of Works, Great Britain.

FIG. 6—The Heliodon, a device for determining insolation using a model of the projected house or building development. Flat board represents portion of earth's surface, rotates horizontally to adjust for latitude, vertically for earth rotation; lamp represents sun, adjusts for declination.

patient may at times prefer a low level of light; abundant light can be easily cut down to the desired level by using curtains or blinds. The average patient, however, particularly the long-term patient who must spend many weary days, weeks, or even months in a hospital, craves the cheerful play of daylight and a view of the sky. A friend of mine who directs a very important hospital once argued that daylighting is not important in acute hospitals, and even considered writing a paper setting forth his views. Upon study he published a paper calling for more and better daylight!

This much is usually granted the proponent of good daylighting design: natural light costs less than artificial illumination in the middle of the day. But now we come to a different potentiality, the *life-or-death* quality of daylight. There have been vague ideas as to methods of hospital planning calculated to minimize cross-infection, but use of window glass has not often been considered for the purpose. Yet there is ample evidence that it should be so judged.

In the last decade of the previous century—relatively early in the bacteriological era—it was allegedly shown that respiratory bacteria when coughed or sprayed into indoor atmospheres spread for only a relatively short distance in the air, three or four feet, and quickly settled to the ground. It was also believed that after leaving the body these bacteria deteriorated quite rapidly with a concomitant loss of ability to infect another individual. In substance, then, according to this so-called contact theory, disease of respiratory origin could be spread only over a short distance. A person in close contact with a sneeze might contract infection, but one who entered a room shortly after a sneeze would have little, if any, chance of doing so. On this basis measures for the prevention of cross-infection in contagious disease wards were instituted. The device resorted to was the cubicle, a partitioned space, usually with a completely open front and with sides off the floor and extending not more than 6 or 7 feet into the air. The cubicle's main purpose was to prevent the propulsion of the liquid droplets which were believed to be the main means of transferring infections other than through actual physical contact. It was believed that disease of bacterial origin could not be spread from cubicle to cubicle; but it soon became evident that virus infections such as measles and chicken pox could not be prevented from spreading by such means (Fig. 2).

Honest hospital administrators began to admit their difficulties in the late thirties after new bacteriological, epidemiological, and clinical findings had begun to show that not only could disease organisms be readily spread through the air of institutions for relatively great distance, but that these germs could be recovered from the air and floor dust in great numbers; that they could survive sometimes for days and weeks, apparently without loss of their ability to produce disease; and also and more importantly that diseases spread by these very bacteria *were actually transmitted* in such a manner.

The relatively firm establishment of these concepts in the past five years has led to a new approach to prevention of the spread of diseases of respiratory and similar origin not only in hospitals but also in schools, barracks, and other places where people congregate. The approach, to date, has consisted of interposing sanitary means (ultraviolet light, chemical sprays, floor and bedding oils) to break the chain of infection, to destroy the microorganisms in their journey from one person to another. One approach, however, whose possible importance has been indicated, has not been followed as yet. This attack involves the use of glass.

As previously mentioned, the "contact" or "close proximity" theory of the spread of infection, which took little if any cognizance of ambient respiratory microorganisms in our indoor environments, prevailed from relatively early in the bacteriological era, the eighteen-nineties, until the middle nineteen-thirties. This theory, however, was not adhered to by everyone. Certain laboratory scientists refused to accept the premises as well as the conclusions. One scientist stands out among these, a Frenchman, Trillat, who for some thirty-odd years devoted himself to laboratory work in order to demonstrate that infection is spread via the air at relatively great distances and to show that such infection could be prevented by sanitary means. Another, a physician, Dr. Joseph De Lee, a Chicago obstretician, by observation and logic came to the conclusion that some of the infections which occurred in maternity hospitals were spread through the air. He advocated radical changes in hospital technic and hospital construction, and went to the great length of advising that mothers have their babies delivered at home rather than in the hospital. There was great agitation in the medical profession, Dr. De Lee was pilloried for his beliefs, and was cast out of the local medical society. He failed to live to see his beliefs vindicated a few years later.

The individual who beat the drum loudest for the sanitary control of air-borne infection in the nineteen-thirties is Prof. W. A. Wells, formerly of Harvard and now of the University of Pennsylvania. His pioneering efforts were largely responsible for the birth in this country of new technics for the prevention of the spread of respiratory infection. The relative respectability of this new idea was demonstrated in 1942 when a symposium on the general subject, "Aerobiology," was held by the American Association for the Advancement of Science and a volume of the papers presented was published.[4]

Aerobiologists W. F. and M. W. Wells, of the Laboratories for the Study of Air-Borne Infection of the University of Pennsylvania School of Medicine, have made discoveries which have led them to the conclusions *"that the atmospheres of our habitations provide a vehicle for the epidemic spread of contagion,"* that even *"evaporation of minute droplets expelled in expiratory processes enables infection to ride these droplet nuclei on air currents,"* and that *"inhaling nuclei-infected air demonstrates the penetration of these nuclei to the depths of the lung with consequent production of disease."*[5]

Writing on the subject of the spread of pneumococcal and streptococcal infections in hospital wards and families,[6] Maxwell Finland reports that he "recovered pneumococci from the dust of hospital wards," states that "air, dust, and droplets have now been shown to play a role in the spread . . ." of many types of infection, and points to *"the importance of taking drastic steps to prevent the further spread of infection from all possible sources, including air and dust."*

Only a few of many authorities have been quoted to show that disease can be transmitted through the air. The evidence is overwhelming. What interests us is whether daylight is germicidal to pathogenic bacteria floating in the air or settled out in the dust, and how to use daylight if that is so.

IS INTRAMURAL DAYLIGHT GERMICIDAL?

The belief used to be that only unfiltered daylight was germicidal. In other words, daylight passing through ordinary glass was considered filtered unless the glass was of a special type which transmitted some ultraviolet light. Pursuant to a series of experiments on the germicidal effectiveness of indoor daylight Dr. Leon Buchbinder concludes:

[4] American Association for the Advancement of Science, Smithsonian Institute Building, Washington, D. C.

[5] *Air-borne Infection as a Basis for a Theory of Contagion*, by W. F. and M. W. Wells, *Aerobiology*, Am. Assn. for the Advancement of Science, 1942.

[6] *The Spread of Pneumococcal and Streptococcal Infections in Hospital Wards and in Families, Aerobiology.*

"The effects of sunlight and daylight which had passed through the glass of a window and the glass covers of Petri plates were tested on streptococci and pneumococci which had settled out of the air into the bottoms of Petri plates. It was found that under those conditions *diffuse daylight was a patent lethal agent.* The lethal effect of daylight was found to be dependent on both quantitative and qualitative factors. Diffuse daylight from blue skies exerted a maximal effect per foot-candle, whereas light from gray skies produced a minimal one. The total lethality even under overcast skies, however, was not insignificant. Direct sunlight through glass under similar conditions was about ten times as potent as diffuse daylight. It may be concluded, then, that if the air-borne route for respiratory infections is important, *(1) the concentration in our environment of organisms of the types which cause these infections is reduced by natural daylight and sunlight, and (2) this suggests the planning of a maximum of window space in new hospitals, schools, and homes."* [7]

Dr. Buchbinder's experiments are conclusive enough, but more dramatic evidence comes from England.[8]

During the war ground floor windows of English hospitals were protected against shrapnel by heavy brick walls which caused ground floor wards to be very poorly daylighted. A high incidence of respiratory infections was observed on the ground floor in contrast to observations made on the upper floors, where the windows were not protected. So striking was the apparent difference that a study of the two environments was undertaken. The report states that ". . . the difference between them was so evident as to suggest the overriding operation of one factor, and the one positive factor appeared to be light. . . ." "Hemolytic streptococci were found to be most numerous in floor dust and were absent from many specimens of dust in the same wards collected from sites on or close to the windows. They were found more often in dust from exceptionally *dark wards* than in comparable specimens from normally lit wards. Hemolytic streptococci . . . in naturally infected dust . . . survived in the dark at room temperature for 195 days." The authors conclude that *"ordinary diffuse daylight is*

[7] *The Transmission of Certain Infections of Respiratory Origin*, Journal of the Am. Med. Assn., Feb. 28, 1942.

[8] *Some Observations on Hospital Dust, with Special Reference to Light as a Hygienic Safeguard*, Lawrence P. Garrod, M. D., F.R.C.P., British Medical Journal, Feb. 19, 1944.

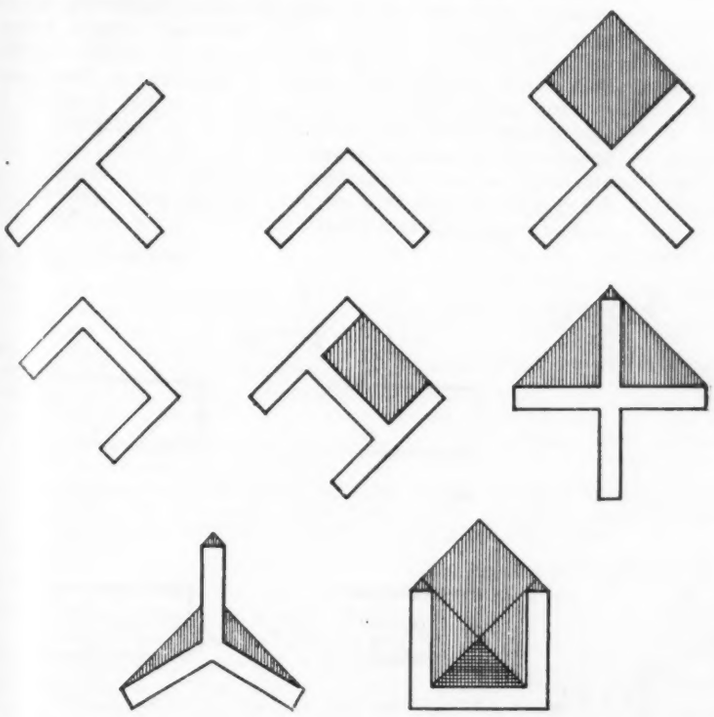


FIG. 7—Sunlighting and shadowing of various plan types; north is at top. *(From "The Lighting of Buildings.")*

FIG. 8—T-shape, adapted to hospital layout.

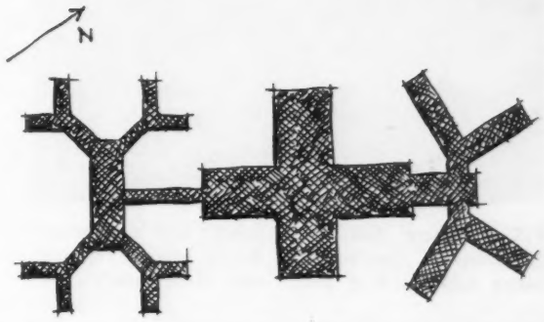


FIG. 9—Multiple L-shape, hospital building for bed-ridden chronic patients, Welfare Island, N. Y.

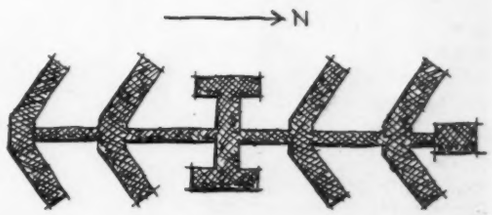


FIG. 10—Chevron shape, a series of flattened L's, Goldwater Memorial Hospital.

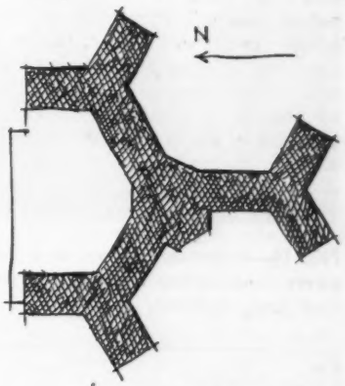


FIG. 11—Y-shape, Sea View Hospital for Tuberculosis.

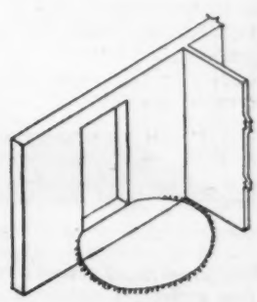


FIG. 12—Contour and depth of area lighted by a conventional window. *(From "The Lighting of Buildings.")*

FIG. 13—Glare; photo taken directly into sun through "Thermopane" (prefabricated double glazing) incorporating heat-absorbing glass, lower portion sandblasted.

FIG. 14—Brightness contrast in a living room: top, contemporary fenestration; bottom, conventional windows. George Fred Keck, architect.

bactericidal to hemolytic streptococci. The interposition of glass does not prevent this effect and it occurs even under winter conditions in England. These facts suggest the possibility that *good natural lighting* may be a factor in preventing the atmospheric spread of infection in surgical wards and elsewhere."

Therefore it may be said, from a germicidal point of view, that:

1. The more indoor daylight, the better;

2. Sunlight is faster in its effectiveness than light reflected from the sky or clouds;

3. The less filtering daylight is subjected to in entering a room, the better, but *light from gray skies, even though filtered through two thicknesses of ordinary glass, is still germicidal.*

SPACING AND ORIENTATION OF BUILDINGS

To achieve more daylight, greater expanse of glass area is needed, and to obtain sunlight it is necessary to pay attention to proper orientation of buildings. In both cases it is desirable to space buildings so as to let as much light as possible into them.

The principles of orientation are different in different climates. Thus, in the tropics where the sun is generally very bright and hot, the preferable orientation is away from the sun and in the direction of prevailing breezes. If the wind is generally from the south or west then it may be better to face the building accordingly, but in that case the direct glare of the sun must be eliminated through the use of vanes, louvers, shelves, or other means. It is difficult to formulate rules for the tropics; for instance, great altitudes there may take one into sub-arctic temperatures, in which case the problem in the "tropics" becomes the same as in more temperate latitudes.

In temperate zones buildings must be designed for two distinct climates: tropic in summer and sub-arctic in winter. To meet both conditions is the problem of northern architecture. In southern climates the architect's problem is ever so much simpler.

Since sunlight contributes considerably to the warmth of buildings and to the psychological well-being of the individual, since it is ten times more germicidal than light reflected from the sky, and since in temperate zones it is desirable to make maximum use of sunlight eight months out of the year, the problem is so to orient hospitals, schools, homes, and even factories, as to capture as much sunshine as possible. Only during four months of the year is there such a thing as too much sunshine. As it is not practical to rotate buildings in the present state of technological development (and perhaps never will be) we must orient our buildings to best advantage, and when direct sunlight is not wanted in excessive quantity various techniques for its control must be relied upon.

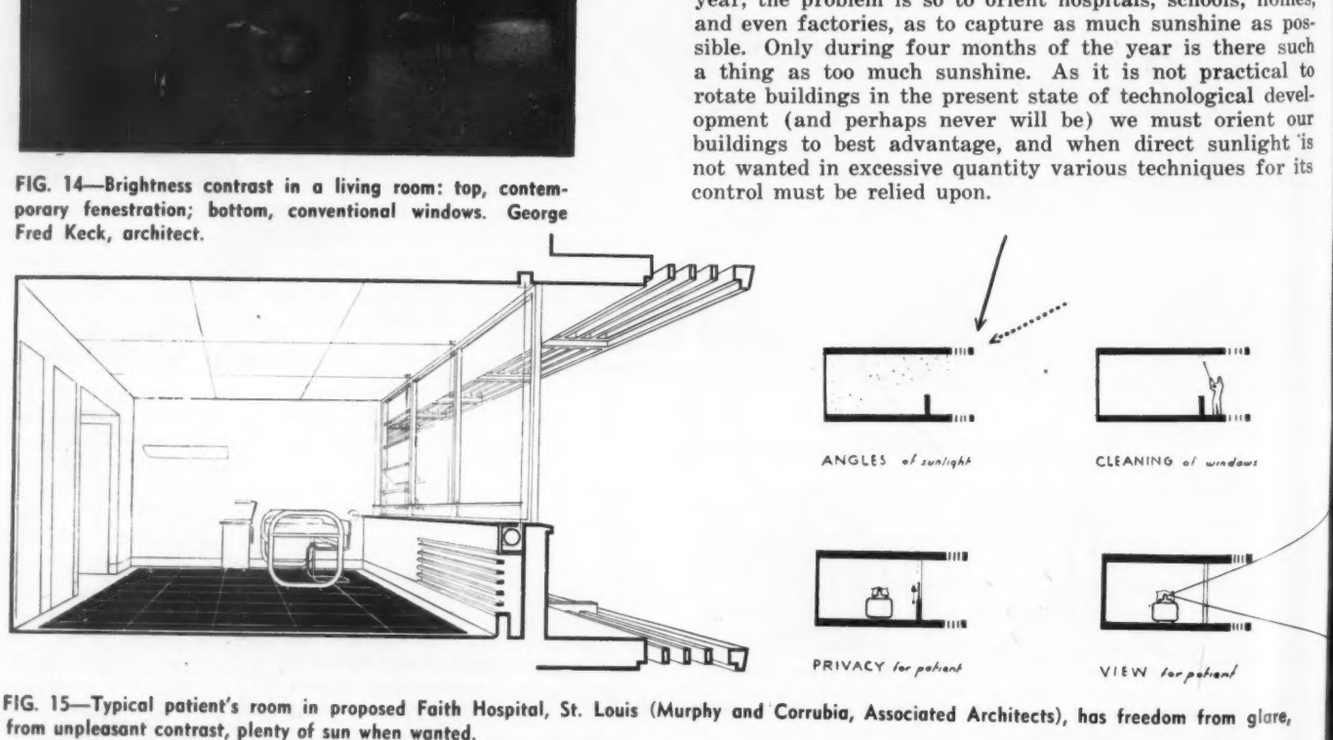


FIG. 15—Typical patient's room in proposed Faith Hospital, St. Louis (Murphy and Corrubia, Associated Architects), has freedom from glare, from unpleasant contrast, plenty of sun when wanted.

Air Conditioning

1-28. *Air Recovery—Fuel Saving,* illus. data folder. Case history on application of air recovery equipment to existing system of air conditioning; ventilation requirements; typical cost comparison chart. W. B. Connor Engineering Corp.

Air Cleaners

1-29. *Air Filtration in Central Systems (Fiberglas Standards A5.2.1),* 24-p. illus. "manual for architects, design and maintenance engineers on the application of dust-stop filters." Owens-Corning Fiberglas Corp.

Auditorium and Theater Equipment

1-30. *Movies Go To Work,* 26-p. illus. booklet (6 x 9) on advantages of sound films in industry for training salesmen and workers, increasing production, sales, improving personnel relations, product interpretation. Bell & Howell Co.

1-31. 2-p. illus. listing of metal theater lobby equipment. New York Brass & Wire Works Co.

1-32. *The Drive-In Theater,* 32 pp., illus. On site selection, building, screen tower, ramps, parking area, screen equipment, technical service. Aver. monthly temperature chart for 64 American communities. Radio Corp. of America, Theater Equipment Section.

Bathroom Equipment

2-09. *Abingdon Vitreous China Plumbing Fixtures,* 14-p. illus. listing of lavatories, water closets, urinals, sinks, drinking fountains, bathroom accessories—of white, colored vitreous china. Abingdon Potteries, Inc. (formerly Abingdon Sanitary Mfg. Co.).

2-10. *Planning Your Bathrooms and Powder Room,* 28-p. illus. catalog (6x9) of bath and powder room fixtures, accessories; placement suggestions. Briggs Manufacturing Co.

Concrete

3-43. *Modern Building Material,* information file on concrete block for masonry construction. Reprints of articles on Army Postal Concentration Center and U. S. Public Health Service Hospital. Besser Manufacturing Co.

Conveyors—Industrial

3-44. *Barrel Conveyors in the Petroleum Industry (Form 345-OP),* 12-p. booklet on systems of automatic vertical, gravity, live-roll delivery, up-ender conveyors for handling petroleum barrels and drums. Photos, sketches, diagrams. Lamson Corp.

3-45. *Lamson Vertical Conveyors,* 4-p. illus. folder. Case information on vertical conveyors used in handling tremendous volumes of paper work between floors in a large insurance company. Lamson Corp.

Doors and Door Equipment

4-32. Illus. catalog on industrial doors, Byrne Doors, Inc. Reviewed November.

4-34. *Revolving Doors with Electric Eye Control,* 4-p. illus. folder on revolving doors operated by 2 types of invisible infrared beams—diagonal and horizontal. International Steel Co., Revolving Door Division.

4-31. *Kinnear Rolling Doors, AIA File 16-D-13 (Bulletin No. 41),* Kinnear Mfg. Co. Reviewed November.

4-33. *Roddiscraft,* Roddis Lumber & Veneer Co. Reviewed November.

Drinking Fountains

4-35. *Drinking Fountains (Cat. 420),* 22 pp., illus. Listing of pedestal and wall fountains, combination coolers and fountains, stops, fittings, parts. Halsey W. Taylor Co.

Electrical Wiring and Equipment

5-21.—*Wiring Is the Key to Modern Homemaking,* National Adequate Wiring Bureau. Reviewed November.

Trumbull Electric Mfg. Company; reviewed November:

5-22. *"Swing-Wa" Dead-Front Switchboards (Cir. 324).*

5-23. *Trumbull Multi-Breaker Panelboards (Cir. 309).*

5-24. *Trumbull Converti-Fuse Panelboards (Cir. 306).*

5-25. *"Fuse-Puller" Switches (Cir. 311).*

Elevators

5-26. *"Going Up" with Elevators by Murphy,* 8-p. illus. folder briefly describing structural steel elevator cars and engines, for all purposes. Murphy Elevator Co.

Fireplaces and Equipment

6-42. *Donley Dampers,* Donley Brothers Co. Reviewed November.

Floors—Coverings and Maintenance

6-45. *Bruce Products in War and Peace,* 6-p. illus. folder on hardwood floorings, chemical maintenance, and lumber products. E. L. Bruce Co.

6-46. *Architects' Specification for Kennedy Floors, AIA File 23-D, 23-B.* Specifications for asphalt and cork tile flooring; cement and wood underfloors; backing for cove and straight bases, wainscoting. David E. Kennedy, Inc.

6-43. *Servicised Products,* Servicised Products Corp. Reviewed November.

6-44. *Sonneborn's Floorlife Cleaner,* L. Sonneborn Sons, Inc., Building Products Division. Reviewed November.

6-32. 2 bulletins on industrial floor maintenance machines, G. H. Tennant Co. Reviewed November.

Gypsum and Gypsum Products

7-33. Folder on exterior gypsum board and laminated roof decking, Certain-teed Products Corp. Reviewed November.

7-32. Sound-Absorbing Gypsum Plaster, *AIA File 39-B,* Gypsum Association. Reviewed November.

Heating and Heating Equipment

8-69. *The Burnham Complete Line of Heating Equipment,* 6-p. illus. booklet on oil, gas, round and square, 50" twin section boilers, fire tube welded steel boilers. "Junior Yello-Jacket" oil boilers for small houses. High test hot water supply boilers. Recessed or free-standing radiators. Dimensions, capacities, ratings. Burnham Boiler Corp.

8-59.—*Specification Data, Light Oil-Fired Series (HSD-53),* Dravo Corp. Reviewed November.

8-60. *Specification Data, Heavy Oil-Fired Series (HSD-52),* Dravo Corp. Reviewed November.

8-68. *Service and Instruction Manual on Automatic Gas Heating Controls (Bulletin S1-100),* 29 pp., illus., (7¾x 5¼). Operation and installation instructions on gas valves, pilot generators, and thermostats for automatic gas heaters. Data on adjustment, recommended wiring, use of millivoltmeter, service troubles, remedies. General Controls Co.

8-62. *B-60 All Gas Control System Service and Instruction Manual (F1-101),* General Controls Co. Reviewed November.

8-66. *The New Hoffman Comfort Package, AIA File 30-C,* Hoffman Specialty Co. Reviewed November.

8-67. *Majestic Heavy-Duty Steel Stoker Furnace,* 4-p. illus. bulletin on heavy-duty steel stoker furnaces for gravity or forced air heating systems, featuring built-in clinker cans; on motor and blower unit for forced-air systems. Specifications, sizes. Majestic Co.

8-65. *Plan to Be Comfortable (Form 477),* The National Radiator Co. Reviewed November.

Insulation

9-38. *Insulations,* 10 pp., illus. Fiberglas industrial insulation; temperature ranges up to 1600°F. Application instructions for 90° bends; application specifications for hot piping. Data on metal mesh blankets; block insulation for temperatures to 600° F and to 1200°F; insulating and finishing cements; mastic finish; wool insulation. Owens-Corning Fiberglas Corp.

9-37. *Facts About Fiberglas for Design Engineers (G44-1),* Owens-Corning Fiberglas Corp. Reviewed November.

Iron

9-39. *Wrought Iron for Flue Gas Conductors and Coal-Handling Equipment,* 16 pp. Advantages of using wrought iron plate or sheet in stack construction to reduce flue gas acid corrosion. Specifications, design details. A. M. Byers Co.

Kitchen Equipment

11-05. 4-p. folder on new aluminum kitchen unit occupying only one wall. Combines drawer-type refrigerator, sink, stove, work-top, cabinets, small laundry dryer. Detail drawings. Insert sheet of suggested layouts. Earle Unit Kitchen.

11-06. *Today's Kitchens,* 16 pp., illus. Color sketches and drawings of 7 kitchens incorporating standard unit cabinetry; planned by Virginia Hart. Kitchen Maid Corp. Price: 9 cents.

11-07. *Min-A-Kit Book,* 20 pp., illus. "Cut-out" booklet for planning kitchens of movable cabinet units and corner fillers. Mullins Mfg. Corp. Price: 10 cents.

Lighting and Lighting Equipment

12-38. *Lighting Data on Flur-O-Guide Lenses and Panels, AIA File 31-F-237,* Corning Glass Works, Lighting Division. Reviewed November.

MATERIALS and METHODS

12-47. *Bulletin 10-B, AIA File 31-F-2,* Day-Brite Lighting, Inc. Reviewed November.

12-48. *Bulletin 30-C, AIA File 31F-2,* Day-Brite Lighting, Inc. Reviewed November.

12-51. *Mercury Lamps (Folder H),* General Electric Co., Engineering Division. Reviewed November.

12-50. *General Electric Lamps (Y495),* General Electric Co., Lamp Dept. Reviewed November.

General Electric Co., Lamp Dept. Reviewed November:

12-39. *Lighting Goes Dramatic for the Postwar Department Store (Y475).*

12-41. *Light to Build Customer Traffic (Y479) (stores).*

12-35. *Modernize with Light (Y543) (Offices, buildings).*

12-36. *Lighting Completely Planned (Y481) (residential).*

12-42. *Lighting Menu for Tomorrow's Restaurant (Y544).*

12-43. *Selling Staged with Light for the Postwar Flower Shop (Y545).*

12-49. *Folders No. 780-783 (fluorescent illumination for classrooms),* Edwin F. Guth Co. Reviewed November.

12-44. *Catalog Section No. 11-44 (Commercial Fluorescent Lighting),* F. W. Wakefield Brass Co. Reviewed November.

Westinghouse Electric & Mfg. Co., Lamp Division. Reviewed November:

12-45. *Fluorescent Progress.*

12-46. *Latest Engineering Data on Slimline Fluorescent Lamps.*

Load Transportation—Industrial

12-52. *Industrial Logistics (A-9516),* 12-p. illus. consumer booklet on a logistics system "enabling architects to design structures with higher utility ratios;" details of survey service for solving industrial load-transportation problems. Elwell-Parker Electric Co.

Maintenance

13-12. *Waterproofing and Dampproofing Products (9/6),* The Flintkote Co. Reviewed November.

13-13. *Cemcoat Fitter and Dustproofer (P-1762),* L. Sonneborn Sons, Inc. Reviewed November.

6 illustrated folders on multi-stage turbine type vacuum producer (capacities to 100 hp), separator, piping system to vacuum inlets. Spencer Turbine Company:

13-21. *Vacuum Cleaning in Stores (Bulletin 121A).*

13-22. *Vacuum Cleaning in Hotels (Bulletin 121B).*

13-23. *Vacuum Cleaning in Office Buildings (Bulletin 121C).*

13-24. *Vacuum Cleaning in Schools (Bulletin 121D).*

13-25. *Vacuum Cleaning in Theaters (Bulletin 121E).*

13-26. *Vacuum Cleaning in Commercial and Public Buildings (Bulletin 121F).*

Paints and Coatings

16-62. *Eye Comfort-Color Harmony, AIA Files 25-B-2, 25-D-5,* Truscon Laboratories, Inc. Reviewed November.

Paving Materials and Treatments

16-63. *Surfacing with Tarmac,* Koppers Co., Inc., Tar and Chemical Division. Reviewed November.

Piping

16-64. *1942 General Catalog (wrought iron pipe),* A. M. Byers Co. Reviewed November.

Plastics

Informative technical material on types of plastic glues, coatings, adhesives, bonds, and their applications; Bakelite Corporation:

16-65. *Phenolic Resin Glues for Plywood (H-8).*

16-66. *Vinylite Plastics—Bonding Elastomeric Compounds (519-A).*

16-67. *Vinylite Resins, Their Forms, Properties, and Uses (F5191-JV-110).*

16-68. *Vinylite Vinyl Acetate Resins (P-3).*

16-69. *Cold-Setting Phenolic Resin Glue BC-17613 (H-5).*

16-54. *A Handbook for Retailers (background data on plastics),* published by The Bulletin of the National Retail Dry Goods Assn. in cooperation with Society of the Plastics Industry. Reviewed November.

Recreation Equipment

Recreation Equipment Company:

18-16. *The Recreation Line (Cat. J-1944).*

American Playground Device Company:

18-17. *Playground Equipment (Cat. 30).*

18-18. *American Swimming Pool Equipment (Cat. SP-19).*

Snow Clearance

19-38. *Case Study No. 4,* 7-p. illus. bulletin on surface snow melting by system of heated, underground wrought iron pipes; discussion of design and installation principles, future applications. A. M. Byers Co.

Stairs—Safety Treads

19-41. *Wooster Safety Treads (Cat. 45),* 16-p. illus. catalog of types of safety treads for commercial, industrial, public buildings; recommended applications; maintenance. Also data on nosings, edgings, floor plates, thresholds, elevator door sills, window sills, curb bars. Wooster Products, Inc.

Storage Equipment

19-39. 4-p. illus. folder on self-service checking parcel lockers for department stores. American Locker Co., Inc.

19-40. *K-Venience Clothes Closet Fixtures (Cat. 841),* 18 pp., illus. Catalog and price list of chrome-finished wardrobe fixtures. Knape & Vogt Mfg. Co.

Store Fronts—Marble

19-37. *Modernize with Marble, AIA File 8-B1,* Vermont Marble Co. Reviewed November.

Temperature Control

20-20. *Econostat Temperature Control System (F-1647-2),* 8-p. illus. bulletin. Data on improved electric temperature control instrument to regulate heating systems in accordance with outdoor temperature changes. Detail drawings, wiring diagrams. Barber-Colman Co.

Welding

23-45. *Airco Electrodes (Cat. 120),* 56 pp., illus. Catalog of welding electrodes with instructions for use; mechanical properties, testing, chemical analyses of electrodes; welding procedures, specifications; requirement estimates; welding symbols, welding terms glossary. Air Reduction Sales Co.

Windows—Metal

23-37. *Designers' Reference (G.C.45S) (modular windows, doors),* William Bayley Co. Reviewed November.

23-46. *Hope's Metal Windows—Modular Types and Sizes (No. 101),* 16 pp., illus. Catalog of standard types and sizes of metal windows, based on modular dimensions; full size and half full size details. Hope's Windows, Inc.

Windows—Wood

23-44. *Installation Details for Modular Windows,* Modular Service Assn. Reviewed November.

Progressive Architecture, 330 West 42nd St., New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature listed.
We request students to send their inquiries directly to the manufacturers.

NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.

NAME _____ POSITION _____

FIRM _____

MAILING ADDRESS _____ ☐ HOME ☐ BUSINESS

CITY _____ STATE _____

PLEASE PRINT 12/45

NEW PRODUCTS

COAL HANDLING

Coal Chute, No. 550. Pressed steel foundation window unit for residences. Majestic Co., Huntington, Ind.

CONVEYORS

Lamson Gravity Conveyor. Lightweight steel conveyor with ball-bearing rolls, mountable anywhere on tripods, to handle packaged merchandise. Lamson Corp., Syracuse 1, N. Y.

Vat-Dumping Unit. Electrically operated steel frame designed for elevating and emptying filled vats quickly and safely. Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 14, Ohio.

COMMUNICATION AND SIGNALING SYSTEMS

Executone. Intercom system for use on construction jobs. Executone, Inc., 415 Lexington Ave., New York, N. Y.

DRAFTING ROOM EQUIPMENT

T Square. Colored plastic, adjustable head, transparent arm. C-Thru Ruler Co., 385 Capitol Ave., Hartford, Conn.

Deci. Point Slide Rule. Made of lightweight magnesium metal alloy (Dowmetal) with flat white plastic surface; metal core highly resistant to climatic conditions. Pickett & Eckel, 53 W. Jackson Blvd., Chicago 4, Ill.

Projector Scale. Plate glass all-magnification scale. Engineers Specialties Division, 980 Ellicott St., Buffalo 8, N. Y.

Parva-graph. Transparent plastic square with removable mitre arm—also usable as divider, protractor, triangle, ruler, compass, french curve. Parva Products Co., West Haven, Conn.

ELECTRICAL WIRING AND EQUIPMENT

Nubun. Synthetic rubber electrical insulation, permits use of small diameter wiring. U. S. Rubber Co., Rockefeller Center, New York, N. Y.

Lead Wire. Wire insulated against heat and moisture with cellulose acetate wrap, felted asbestos, with lacquered, colored, glass braid covering. For use with electric appliances, such as sterilizers, etc. General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

FIRE EXTINGUISHING EQUIPMENT

Foamite Challenger. Portable 40-gal. engine containing foam fire extinguisher for hot oil fires. American-LaFrance-Foamite Corp., Elmira, N. Y.

HARDWARE

Panic exit devices, sash centers, push and pull bars, kick plates, etc.; new designs and finishes. Clayton & Lambert Mfg. Co.; Monarch Hardware Div., 78 Reade St., New York, N. Y.

Door Stop-Nut. Flanged metal ring slips over door hinge knuckle, stops door at 90° or 180°. Door Stop-Nut, Inc., 810 W. 76 St., Chicago 20, Ill.

Corbin Unit Lock. One-piece bronze lock (with pin-tumber cylinder for outside knob deadlock) requires only 2 saw cuts on door edge; fastens with 2 bolts—no mechanism adjustments. P. & F. Corbin, New Britain, Conn.

(Continued on page 100)

. . . THERE *MUST* BE A REASON!

THOSE REFRIGERATORS———

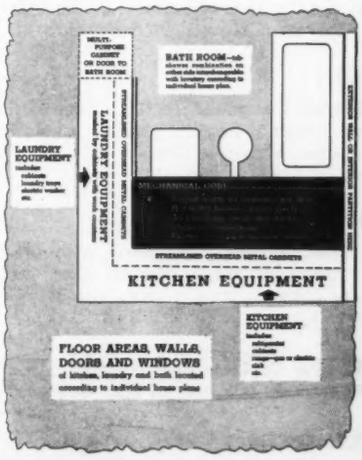
No sooner had we okayed proof for the spanking piece for November, on refrigerators, than we received news of the Earle Unit Kitchen (below, right). We can—and do—state that Mr. Earle has succeeded in furnishing designers a complex unit which could seriously limit rational kitchen design. With that off our chest, we proceed to the other side of the fence: It is ingenious. In it is packed more convenience than is achieved in many a custom-tailored kitchen. It has a thoroughly rationalized refrigerator (refrigerated undercounter drawers, cold unit above) and by-product heat from the compressor is put to work. Archaeologists please note: PENCIL POINTS first published this unit in February 1941. The opinion expressed then still stands.

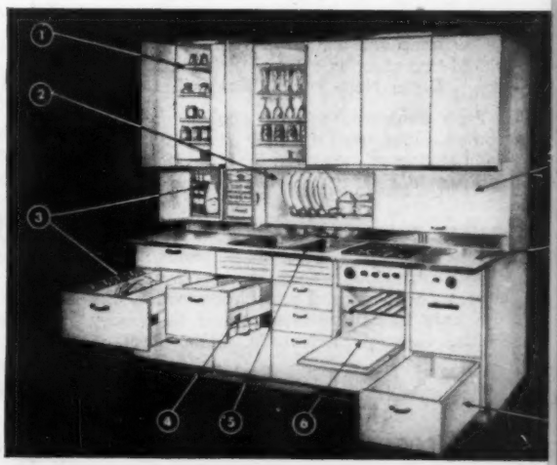
Speaking of refrigerators, the first publishable diagram of the new Ingersoll Mechanical Core (see last month's issue) is also shown below. It is logical, and in the best American tradition. How many of us realize that the hallowed New England Homestead was built around a huge central chimney—the "mechanical core" of its day? Is it unfair to ask how many have considered the limitations *this* large gadget might impose on planning? Incidentally, the first-prize-winners in the Pencil Points-Pittsburgh-house competition designed their house around a mechanical core. (For a TIMEly report on that competition see *Arch. Forum*, November 1945, page 9, where is published, without credit to the designers or to us, a competition model as shown in department stores.)

Burnham's heating base-board.

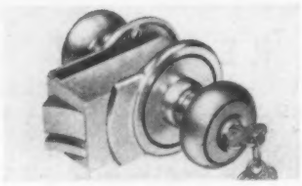
NOT ULTRAVIOLET, NOT INFRARED, but BASE-RAY

The Burnham Boiler Corporation is publicizing its "base-ray heat panel," which delivers heat straight into a room at ankle height. The unit is a hollow, cast-iron, baseboard-like affair, to be supplied with steam or hot water by the usual furnace. Sections are 24" and 12" long, are shipped assembled up to 10 ft., and have concealed fittings and operating valves. Standard wood moldings at top and bottom of the panel cover the joints with adjacent materials. How to use the panel when you don't *want* a baseboard may be another unreasonable question.





Left, scheme of Ingersoll Mechanical Core. Black area contains heating furnace, water heater, plumbing stacks, electrical connections, and supports a porcelain-enameled chimney; laundry has cabinets, trays, washer, etc.; kitchen side includes refrigerator, cabinets, range, sink, etc. Bath fixtures connect directly, can be interchanged. Right, Earle Unit Kitchen has (1) shelves, (2) dish dryer operated by waste heat from refrigerator, (3) 9-cu.-ft. refrigerator (drawers, over-counter compartments), (4) laundry dryer, (5) sinks, (6) gas or electric range, (7) storage drawers, (8) stainless steel top, (9) utility cabinets. Except top, unit is aluminum, is available 5'-6", 7'-0", 8'-6" long.



Corbin Unit Lock —no mortises required, no disassembling.

DECIDEDLY WORTH NOTING

Corbin's one-piece lockset, which doesn't have to be disassembled for installation . . . newspaper stories on Sherwin-Williams' paint containing DDT, reportedly deadly to insects . . . Artek-Pascoe's new mass-produced furniture, well designed and unbelievably inexpensive . . . Sparta Ceramic Co's. new tile panels, mounted on paper-thin plastic, designed for gluing to subfloors with resin adhesives . . . *and* CPA—the new Civilian Production Administration which replaces the War Production Board. Something wistfully familiar about the brave postwar era . . .

Products (cont'd.)

HEATING AND HEATING EQUIPMENT

Reco Heat Circulator Fan. Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.

HOSPITAL EQUIPMENT

Beem Hospital Bed. Mechanized bed with built-in plumbing and electric connections, supply cabinet, bedlight, orthopedic facilities, etc., all push-button controlled. Developed by Dr. Marvel Darlington Beem, Los Angeles.

INSULATION

Foamglas. Improved, quantity of cells per cu ft doubled; conductivity substantially reduced. Pittsburgh Corning Corp., 632 Duquesne Way, Pittsburgh, Pa.

Flotofoam. Extremely light plastic foam applicable for home insulation. U. S. Rubber Co., Rockefeller Center, New York, N. Y.

Sisalation. A combination of "Sisalkraft" building paper and aluminum used for reflective insulation. Sisalkraft Co., 205 W. Wacker Drive, Chicago 6, Ill.

KITCHEN EQUIPMENT

Earle Unit Kitchen. Aluminum one-wall kitchen unit incorporating refrigerator, sink, stove, work-top, cabinets, small laundry dryer. 3 sizes: 5'6", 7'0", 8'6". Earle Unit Kitchen, 535 Fifth Ave., New York 17, N. Y.

Kitchen Ventilating Fans. Built-in, portable, windowpane types for homes. Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, Ill.

LIGHTING FIXTURES AND EQUIPMENT

AmerTran Ballast. 2-way lead-out ballast for hot and cold cathode fluorescent lamps. American Transformer Co., 178 Emmet St., Newark 5, N. J.

LumiNite. Plaskon-molded wall switch plate with miniature pilot lamp. Associated Projects Co., 80 E. Long St., Columbus 15, Ohio.

LumiNite Duplex Convenience Outlet Plate. Single plastic plate for 2 outlets, with housing for safety-pilot light. Associated Projects Co., 80 E. Long St., Columbus 15, Ohio.

40-w 4500-White Fluorescent Lamp. New 100-w lamp size for low brightness, reduces shield accessories. General Electric Co., Lamp Dept., Nela Park, Cleveland, Ohio.

F-Type Sunlamp. Special phosphor-powder-coated glass used in 20-w and 40-w fluorescent lamps, to provide both light and ultraviolet energy. General Electric Co., Lamp Dept.

G15T8S, G30T8S. 15-w and 30-w germicidal lamps combining germ-killing and health-giving ultraviolet energy by coating inside of glass with special phosphor powder. For use **only** in poultry and animal husbandry fields. General Electric Co., Lamp Dept.

One- and Two-Lamp Ballasts. Special ballasts in both uncorrected and high-power-factor ratings for **Slimline** Mazda F lamps. General Electric Co., Schenectady, N. Y.

Downlighting. 2 semi-silvered bowl lamps, screw bases, 300 and 500. General Electric Co., Lamp Dept., Nela Park, Cleveland, Ohio.

Jack Rabbit Starter. For 40-w instant-starting fluorescent lamps. General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

Circline Lampholder. For 12" Circline lamp. General Electric Co.

Slimline Lampholder. For T8 and T6 fluorescent lamps. General Electric Co.

Holoflux Dust Tight Unit Nos. 9061-9062. Industrial fluorescent fixtures designed to shut out dust from metal, coal, flour, starch, grain. Holophane Co., Inc., 342 Madison Ave., New York, N. Y.

Holoflux Industrial Unit Nos. 9065-9066. All-enclosed fluorescent fixtures with high efficiency, for industrial use. Holophane Co., Inc., 342 Madison Ave., New York, N. Y.

J-45 Fluorescent Fixture. For 2- or 4- 40-w and 4- to 8- 40-w. Lamp position said to "double reflector surface." Joleco Corp., 2517 Baldwin St., St. Louis 6, Mo.

Tymzit. Light or power toggle switch with both instant and delayed action (to 3 min.). T. J. Mudon Co., 1240 Merchandise Mart, Chicago 54, Ill.

The Wilson A-4440. Fluorescent luminaire. Houses 4 40-w T-12's. Pittsburgh Reflector Co., Oliver Bldg., Pittsburgh 22, Pa.

A-3440 Luminaire. Shielded 4-40-w fluorescent unit with **Satinol** glass panels. Pittsburgh Reflector Co.

Spero CVG-448. Low-cost fluorescent luminaire (for 4 40-w tubes) with ribbed, ceramic-coated glass. Spero Electric Corp., 18222 Lanken Ave., Cleveland 19, Ohio.

G-30 Bulb. Inside-frosted, 3-light bulb with mogul base, 100-200-300 w. Sylvania Electric Products, Inc., Salem, Mass.

PS-25 Bulb. Inside-frosted, 3-light bulb with standard base, 50-100-150 w. Sylvania Electric Products, Inc.

Silvered Bowl Lamps. Inside frosted finish for indirect fixtures, to 1000 watts; ratings to 1000 hours. Sylvania Electric Products, Inc., Salem, Mass.

K Lamp. Cold cathode fluorescent, 10,000 hr rating. Sylvania Electric Products, Inc.

PLASTICS

Vinyl Butyral Compound DB218. Compound for waterproofing fabrics; flexible at low temperatures. Monsanto Chemical Co., Plastics Div., St. Louis 4, Mo.

PLUMBING

Silbraz Joint. Bronze pipe fitting with pre-inserted rings of silver brazing alloy for threadless brass or copper pipe. Air Reduction Sales Co., 60 E. 42 St., New York 17, N. Y.

Cadet Shower Cabinet. Restyled galvanized steel cabinet unit. Fiat Metal Mfg. Co., 1205 Roscoe St., Chicago 13, Ill.

Josameter. Pocket slide rule, selects proper size grease interceptor for any size, type of sink or fixture. Josam Mfg. Co., 303 Empire Bldg., Cleveland, Ohio.

Pressure die-cast brass fittings for plumbing fixtures, for all low-pressure fixtures. Titan Metal Mfg. Co., Bellefonte, Pa.

RADIOS

Ansley Paneltone. Radio for building-in, requires only 4½" depth from wall face; 2 models. Paneltone Corp., 1841 Broadway, New York 23, N. Y.

TEMPERATURE CONTROL

Econostat. Electric temperature control for heating systems; regulates flow of heat automatically according to outdoor temperature changes. Barber-Colman Co., Rockford, Ill.

Steam Temperature Regulator. Controls temperature and pressure, reducing piping needs; 100°F adjustable range. Leslie Co., 58 Delafield Ave., Lyndhurst, N. J.

Model TS-1. Thermostatic expansion valve regulates refrigerant flow into commercial evaporator; eliminates need of special charging and external equalizer. Mercready & Co., 605 Broad St., Newark 2, N. J.

TILE

Sparamics. Tiles mounted in flexible plastic (hairline thickness) sheets for direct application to adhesive-coated surface. Sparta Ceramic Co., East Sparta, Ohio.

VALVE CONTROLS

Valve Stem Position Indicator. Hydraulically-actuated mechanism to show valve position in controling flow of liquids. Liquidometer Corp., Marine Div., Long Island City, N. Y.

WALL TIES

Copperweld Wall Ties for Cavity Wall Construction. Copper-covered "Z" wall ties, rustproof, immune to chemical action within wall, 2-ton breaking strength. Copperweld Steel Co., Dept. AD, Glassport, Pa.

WATER COOLERS

Water Coolers. Restyled postwar models. Sunroc Refrigeration Co., Glen Riddle, Pa.

WOOD

Asidbar. Black plastic-impregnated pine wood. Resistant to wear, abrasion, water, acids, severe weather temperatures to 180°F. Koppers Co., Wood Preserving Div., Orrville, Ohio.

Plastic-surfaced plywood panels for walls and ceilings of bathrooms, kitchens; immune to grease, alcohol, mild acids. United States Plywood Corp., 55 West 44th St., New York 18, N. Y.

Molded plywood and plastic pipe and tubing. United States Plywood Corp.

PLYWOOD: II Cont'd.

SOURCES OF SUPPLY—The following list of manufacturers is reasonably complete, though it cannot be guaranteed to be absolutely so. Omission of a firm name implies no fault with the product or its manufacturer. Most of the products may be obtained through local dealers, lumber yards, etc.

Douglas Fir Plywood Manufacturers

ABERDEEN PLYWOOD CORP., Aberdeen, Wash.
ANACORTES VENEER, INC., Anacortes, Wash.
ASSOCIATED PLYWOOD MILLS, Olympia, Wash.
BELLINGHAM PLYWOOD CORP., Bellingham, Wash.
BUFFELEN LBR. & MFG. COMPANY, Tacoma, Wash.
CASCADES PLYWOOD CORP., Portland, Ore.
ELLIOTT BAY MILL COMPANY, Seattle, Wash.
HARBOR PLYWOOD CORP., Hoquiam, Wash.
M & M WOOD WORKING COMPANY, Portland, Ore.
NORTHWEST DOOR COMPANY, Tacoma, Wash.
OREGON-WASHINGTON PLYWOOD COMPANY, Tacoma, Wash.
PENINSULA PLYWOOD CORP., Port Angeles, Wash.
PUGET SOUND PLYWOOD, INC., Tacoma, Wash.
ROBINSON MFG. COMPANY, Everett, Wash.
SIMPSON INDUSTRIES, INC., Seattle, Wash.
SMITH WOOD-PRODUCTS, INC., Portland, Ore.
UNITED STATES PLYWOOD CORP., Seattle, Wash.; New York, N. Y.
VANCOUVER PLYWOOD & VENEER COMPANY, Vancouver, Wash.
WALTON PLYWOOD COMPANY, Everett, Wash.
WASHINGTON VENEER COMPANY, Olympia, Wash.
WEST COAST PLYWOOD COMPANY, Aberdeen, Wash.
WESTERN DOOR & PLYWOOD CORP., Portland, Ore.
THE WHEELER, OSGOOD COMPANY, Tacoma, Wash.

Hardwood Plywood Manufacturers

ALGOMA PLYWOOD & VENEER COMPANY, Algoma, Wis.
AMERICAN PLYWOOD CORP., New London, Wis.
J. L. ANDERSON VENEER COMPANY, Cheraw, S. C.
ANDERSON-TULLY COMPANY, Memphis, Tenn.
BALDWIN PLYWOOD & VENEER COMPANY, Gillett, Wis.
BARRE PLYWOOD COMPANY, Barre, Vt.
BLAIR VENEER COMPANY, North Troy, Vt.
BRADFORD VENEER & PANEL COMPANY, INC., Bradford, Vt.
BREECE VENEER & PANEL COMPANY, INC., New Albany, Ind.
CADILLAC PLYWOOD COMPANY, Cadillac, Mich.
CAROLINA PANEL COMPANY, Lexington, N. C.
CAROLINA VENEER & LUMBER COMPANY, Florence, S. C.
CASWELL-RUNYAN COMPANY, Huntington, Ind.
CHAUTAUQUA PLYWOOD COMPANY, Jamestown, N. Y.
CINCINNATI VENEER COMPANY, Cincinnati, O.
COLUMBIA PANEL MFG. COMPANY, Thomasville, N. C.
CONWAY VENEER COMPANY, INC., Conway, S. C.
CRESCENT PANEL COMPANY, Louisville, Ky.
E. M. CUMMINGS & SON, New Albany, Ind.
DAMASCUS LUMBER CORP., Marion, Va.
DARLINGTON VENEER COMPANY, INC., Darlington, S. C.
DAYSTROM CORP., Olean, N. Y.; Daystrom, N. C.
DENNY MFG. COMPANY, Roseboro, N. C.
DENNY ROLL & PANEL COMPANY, High Point, N. C.
DENNY VENEER COMPANY, Rocky Mount, N. C.
F. EGGERS PLYWOOD & VENEER COMPANY, Two Rivers, Wis.
FOREMAN-DERRICKSON VENEER COMPANY, Elizabeth City, N. C.
FROST VENEER & PLYWOOD CO., INC., Sheboygan, Wis.
FYLES & RICE COMPANY, INC., Bethel, Vt.
GEORGIA PLYWOOD COMPANY, Dublin, Ga.
GETTYSBURG PANEL COMPANY, Gettysburg, Pa.
HAMILTON VENEER COMPANY, Orangeburg, S. C.
HASKELITE MFG. CO., Grand Rapids, Mich.; Chicago, Ill.
HASTY VENEER COMPANY, Maxton, N. C.
HAYWORTH ROLL & PANEL COMPANY, High Point, N. C.
HOOSIER PANEL COMPANY, New Albany, Ind.
HULSART VENEER COMPANY, Tuscaloosa, Ala.
INDIANA VENEER & PANEL COMPANY, New Albany, Ind.
INTERSTATE VENEER COMPANY, INC., Emporia, Va.
IPIK PLYWOOD COMPANY, Kenner, La.
JAMESTOWN VENEER & PLYWOOD CORP., Jamestown, N. Y.
JASPER WOOD PRODUCTS COMPANY, Jasper, Ind.
THE KENTUCKY COMPANY, Columbia, Miss.
KING VENEER COMPANY, Florence, S. C.
LACEY MFG. COMPANY, INC., Fayetteville, N. C.
LAKESIDE PLYWOOD, INC., Newport, Vt.
LAURINBURG PLYWOOD CORP., Laurinburg, N. C.
LENOIR VENEER COMPANY, Lenoir, N. C.
LOUISVILLE VENEER MILLS, Louisville, Ky.
M & M PLYWOOD CORP., Longview, Wash.
MARTIN VENEER CORP., Pascagoula, Miss.
MEMPHIS PLYWOOD CORP., Memphis, Tenn.
THE MENGEL COMPANY, Louisville, Ky.
MISSISSIPPI PLYWOOD & VENEER CORP., Fernwood, Miss.
NATIONAL VENEER COMPANY, Lenoir, N. C.
NORTH CAROLINA VENEER COMPANY, Bridgeton, N. C.
OLD DOMINION VENEER COMPANY, Bristol, Va.
PARAMOUNT PLYWOOD PRODUCTS, INC., New Albany, Ind.
PEARL CITY PLYWOOD COMPANY, INC., Jamestown, N. Y.
PEERLESS PLYWOOD COMPANY, High Point, N. C.
PEERLESS VENEER COMPANY, INC., High Point, N. C.
PILGRIM PLYWOOD CORP., Waterbury, Vt.
PLUSWOOD, INC., Oshkosh, Wis.
PLYWOOD-PLASTICS CORP., Hampton, S. C.
ROCHLIN VENEER & PLYWOOD COMPANY, Statesville, N. C.
RODDIS LUMBER & VENEER COMPANY, Marshfield, Wis.
RURAL HALL VENEER COMPANY, Rural Hall, N. C.
ST. LOUIS PLYWOOD MFRS., INC., St. Louis, Mo.
SETTER BROTHERS, INC., Cattaraugus, N. Y.
SHAWANO VENEER & PLYWOOD CO., Shawano, Wis.
SHEBOYGAN FRUIT BOX COMPANY, Sheboygan, Wis.
SOUTHERN BOX & LUMBER COMPANY, Wilmington, N. C.
SOUTHERN LAMINATING COMPANY, Memphis, Tenn.
SOUTHWESTERN VENEER COMPANY, Cotton Plant, Ark.
STATESVILLE PLYWOOD & VENEER CO., Statesville, N. C.
STILLEY PLYWOOD COMPANY, Conway, S. C.
STOCKTON PLYWOOD COMPANY, INC., Stockton, Ala.
SUWANEE PLYWOOD CORP., Greenville, Fla.
TEKWOOD, INC., Lakeport, N. H.
THOMASON PLYWOOD CORP., Fayetteville, N. C.
THOMPSON & SWAIM PLYWOOD CO., Tuscaloosa, Ala.
UNDERWOOD VENEER COMPANY, Wausau, Wis.
U. S. PLYWOOD CORP., New York
VENEER MFG. COMPANY, Conway, S. C.
VERMONT PLYWOOD INC., Hancock, Vt. (Mail address: Rochester, Vt.)
WAYNESBORO VENEER COMPANY, Waynesboro, Ga.
WEBER VENEER & PLYWOOD COMPANY, Shawano, Wis.
O. L. WILLIAMS VENEER COMPANY, INC., Sumter, S. C.
WILLIAMS VENEER COMPANY, INC., Montgomery, Ala.
WILSON VENEER COMPANY, INC., Rome, N. Y.
WISCONSIN TIMBER & LAND COMPANY, Sheboygan, Wis.

Plastic-Surfaced Plywood

Product	Manufacturer
"Super-Harborite" (less dense surface)	HARBOR PLYWOOD CORP., Hoquiam, Wash.
"Inderon" (dense surface)	BUFFELEN LUMBER & MFG. CO. Tacoma, Wash.
"Inderon" (dense surface)	WASHINGTON VENEER CO., Olympia, Wash.
"Laminex" (dense surface)	WHEELER, OSGOOD CO., Tacoma, Wash.

Metal-Surfaced Plywood

"Plymetl"	HASKELITE MFG. CORP., Grand Rapids, Mich.
"Armorply"	U. S. PLYWOOD CORP., New York, N. Y.

PLYWOOD: II (plastic and metal surfacings)

BUILDING PRODUCT FACTS
Progressive Architecture • December 1945 • Serial No. 18

This is the second of a series of Building Product Fact Sheets on plywood. The first, covering Douglas fir and hardwood plywoods, appeared last month. The next sheet will be published shortly.

PLASTIC-SURFACED PLYWOOD

DESCRIPTION—A recently developed type of product, plastic-surfaced plywood has progressed rapidly during the war although one kind was manufactured before the war. In its manufacture, a sheath of plastic is so bonded to the surface of Douglas fir plywood that the two materials become almost homogeneous. In this respect, the new material differs from plywood overlaid with sheet plastic which is merely glued on. The plastic now in common use is phenolic resin, which produces an opaque, green or brown-colored material. Experiments have been made, and early commercial production is forecast, of plastic-surfaced plywood in various colors (black, red, and blue are said to be available now), pastel shades, translucent surfacings which permit the wood grain to be seen, and patterns. For these purposes other synthetics, notably melamines, may be required; additional properties and surface qualities may result from the use of different plastics.

Purpose in developing plastic-surfaced plywood is to provide a surface superior for certain purposes to that obtainable with Douglas fir alone, reduce vapor transmission, moisture absorption, etc. Like any wood, fir plywood is subject to a certain amount of surface checking, grain, etc.; plastic can produce a surface of almost constant quality. Some plastic-faced plywoods are self-finished; that is, they need no additional protection in the form of paint or other finish. Others are designed to form a paint base. Again, although fir plywood is highly shock-resistant, its surface can be marred, abraded, dented, etc., by sharp objects or impacts. The plastic surfacing affords hardness and abrasion resistance. In products manufactured with the plastic entirely encasing the plywood—that is, edge-coated as well as faced, moisture absorption is substantially reduced. Edge strength of the panels is also increased, and flexural strength is somewhat increased although compound curves cannot be fabricated of panels with dense plastic surfacing. For all practical purposes, the dense-surfaced products are impervious to both water and moisture. They are also highly resistant to mild acids, alkalies, molds, fungi, extremes of temperatures, oils, and hydrocarbons; and have lower but still good resistance to many solvents. Surface finishes available are glossy (self-finished), flat (for painting), and rough (for non-skid uses).

MANUFACTURE—There are several methods of manufacture. A carrier film, of paper or pulp, contains the plastic, which is bonded to the plywood. A very dense surface is produced when the carrier is saturated with resin; in this case, the carrier is paper and may be so saturated that, when bonded under heat and pressure, no additional adhesive is needed; the plywood is fabricated and the surfacing bonded to it in one operation. Another method requires an adhesive; in this case the plywood may be manufactured first and the surfacing applied separately. A less dense surface results from lower resin content in the surfacing material. The denser surfacing needs no paint, although it may be painted if a certain procedure is followed. The less dense surfacing is designed to take a finish such as paint, varnish, etc. The plywood used is exterior grade (waterproof) Douglas fir. Sizes are 4 ft. by 8 ft., thicknesses ranging from 3/16" to 1 3/16".

GRADING—Standards have not yet been compiled and approved on an industry-wide basis; and tests are still being made and evaluated as to masking character of the surfacing, paintability, possibility of making glued assemblies, bending radius, machining characteristics, and nail-holding properties, also weather resistance, surface hardness, structural values, resistance to chemicals and to water and vapor.

Dense plastic-surfaced plywood is graded by manufacturers according to weight of plastic surfacing for a given area per side of the panel. In general, the greater the weight of plastic surfacing, the thicker and harder is the surface; water absorption and strength are not materially increased by adding more surfacing. The surfacing is applied in plies, each weighing 20 lb. per 1000 sq. ft.; three plies are used per side in the thinnest surface, which thus becomes 60/60 (60-lb. per 1000 sq. ft. each side). Weight increases in 20-lb. jumps (60/80, 80/80, etc.) up to 180/180. Film thickness ranges from .009" for 60/60 grade to .027" for the 180/180 grade. Surface hardness increases from 74M (Rockwell scale) to 128M over the same range, whereas vapor transmission is only slightly reduced (from appr. 0.17 grams per sq. in. to 0.11 over the same range). Available on special order are extra-large sizes (as in Douglas fir plywood), special surface finishes, and a grade specifically designed for prefabricators.

Plastic-surfaced plywood with a less dense surface is made with a phenol-impregnated fibrous sheet, containing resin in quantities deliberately controlled to give porosity so that applied finishes will bond well. Standard grade is 65/65, the film 0.015" thick; heavier surfacing (for instance, 130/130) is obtainable on special order.

FABRICATION—To prevent chipping the plastic, care is necessary in fabricating dense plastic-surfaced plywood. Saws with numerous small, hardened teeth, spiral cutters for milling, drills with polished flutes, non-tapered punches, etc., are recommended. Similarly, the dense-surfaced plywood must be abraded or washed with caustic soda before glueing cold; otherwise, hot-press technique and phenol glue are used. Paint is best sprayed, although brushing or dipping will work, and paints containing approx. 30% pthalic anhydride appear to give the best bond. These precautions are not needed for material with less dense surfacing.

METAL-SURFACED PLYWOOD

Designed for special applications where the wearing, hardness, and other qualities of metal are required and the advantages of plywood are likewise desirable, metal-surfaced plywood is made with several coverings, including galvanized steel, stainless steel, aluminum, copper, lead, etc. In its manufacture the metal is bonded to the plywood base with a flexible adhesive which compensates for the differing rates of expansion of the surface and base under various conditions. By its use, thin-gage metal can be employed for surfacing large areas without danger of buckling, waving, etc.; it can be used in counter tops and other applications where sanitation, freedom from chipping, and similar qualities must be combined with the resiliency of wood; lead-surfaced plywood can be used for X-ray rooms, etc.

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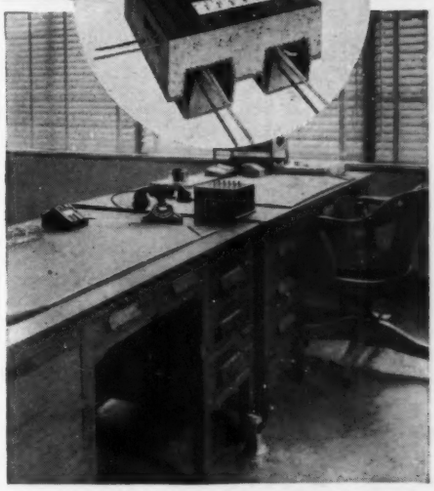

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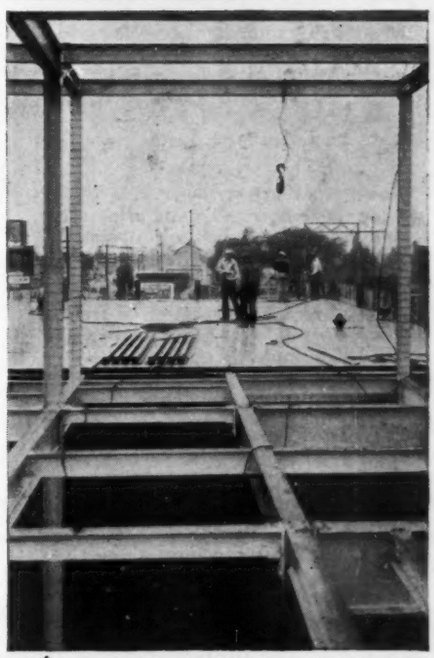

Q-Floors have a lot of construction advantages. They reduce building time from 20 to 30%. This is money in pocket to your client. His income starts that much sooner from his investment.

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For details, call a Robertson representative or write for Q-Floor literature. Q-Floor Fittings may be seen at any General Electric construction materials distributor.

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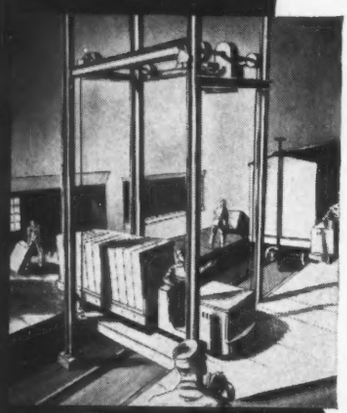

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Reviews

PLANNING VERSUS HAYEK

By Davidson-Smull

Do architects realize that they are becoming serfs? That if the Government really makes "a million homes a year" a reality, fascism will be just around the corner? That if there is the foresight to insure the employment of all Americans, construction workers included, civil liberties will be sacrificed?

Farfetched? Not according to Friedrich (von) Hayek and backers who have cooked up a savage and impressive scare. Their frenzied deprecations against planning, their distortions of the basic issues, have incited and befogged simultaneously.

Any mature individual has a social obligation to take a stand on this question. Architects and physical planners particularly have to discern the fiction from the fact, for they have much at stake professionally. A diatribe against planning cannot be dismissed lightly as belonging to the distant land of economics or politics. Carping critics of Government will have little tolerance for a municipal plan, or the over-all solution of a transportation problem. Opponents of *full employment* will not be interested particularly in a revitalized construction industry. Those who sneer at bureaucracy will do little to further the awarding of Government contracts for public works.

None of us can escape today's pitched battle over planning. The designer's position is that of an innocent bystander—he gets a bullet hole through his hat but knows not what the fight is about, who fired the shot, or for whom the bullet really was meant.

Many have praised Hayek for writing one of the most important books of our period. There is no doubt it is significant. So was *Mein Kampf!* As Herman Finer says: "Reaction has been waiting yearningly for this message" for "it eases the conscience; approves the feeling that nothing need be done; attacks bureaucracy; says the planner is a scoundrel; and saves taxes!"

The Road to Serfdom. Friedrich A. Hayek. University of Chicago Press, Chicago, Ill., 1944. 248 pp. $2.00

The Road to Reaction. Herman Finer. Little, Brown & Co., 60 E. 42 St., New York, and Atlantic Monthly Press, Boston, 1945. 228 pp. $2.00

Time for Planning. Lewis L. Lorwin. Harper & Brothers, 49 E. 33 St., New York, 1945. 273 pp. $3.00

Men at Work; Some Democratic Methods for the Power Age. Stuart Chase. Harcourt Brace & Co., 383 Madison Ave., New York, 1945. 146 pp. $2.00

Full Employment in a Free Society. William H. Beveridge. W. W. Norton & Co., Inc., 70 Fifth Ave., New York, 1945. 429 pp. $3.75

Sixty Million Jobs (pamphlet ed.). Henry A. Wallace. Simon & Schuster, 1230 Sixth Ave., New York, 1945. 83 pp. $1.00. Clothbound edition available from Simon & Schuster, and Reynal & Hitchcock, Inc., 8 W. 46 St., New York. $2.00

America's Role in the World Economy. Alvin H. Hansen. W. W. Norton & Co., Inc., 70 Fifth Ave., New York, 1945. 199 pp. $2.50

Hayek echoes all the old bromides about Government control and in addition tosses in a few bogies of his own. He is obsessed by the idea that planning and democracy are incompatible. He reasons circuitously that, since Mussolini was once a "Socialist" and Hitler led the National Socialist Party, in the end socialism and fascism are indistinguishable. In his world there are no grays. Foresight and control are a great big black, the impersonal market mechanism a spotless white.

Hayek, however, despite staunch backing from certain quarters in America, has been challenged. There is a voluminous and convincing literature to confront his blasphemy. Professor Finer in a direct rebuttal completely demolishes Hayek's straw bogies. In answering the erstwhile Austrian economist, point by point, he not only accuses him of fraudulent charges and faulty scholarship but also indicates the positive need for planners in a democratic society.

(Continued on page 112)

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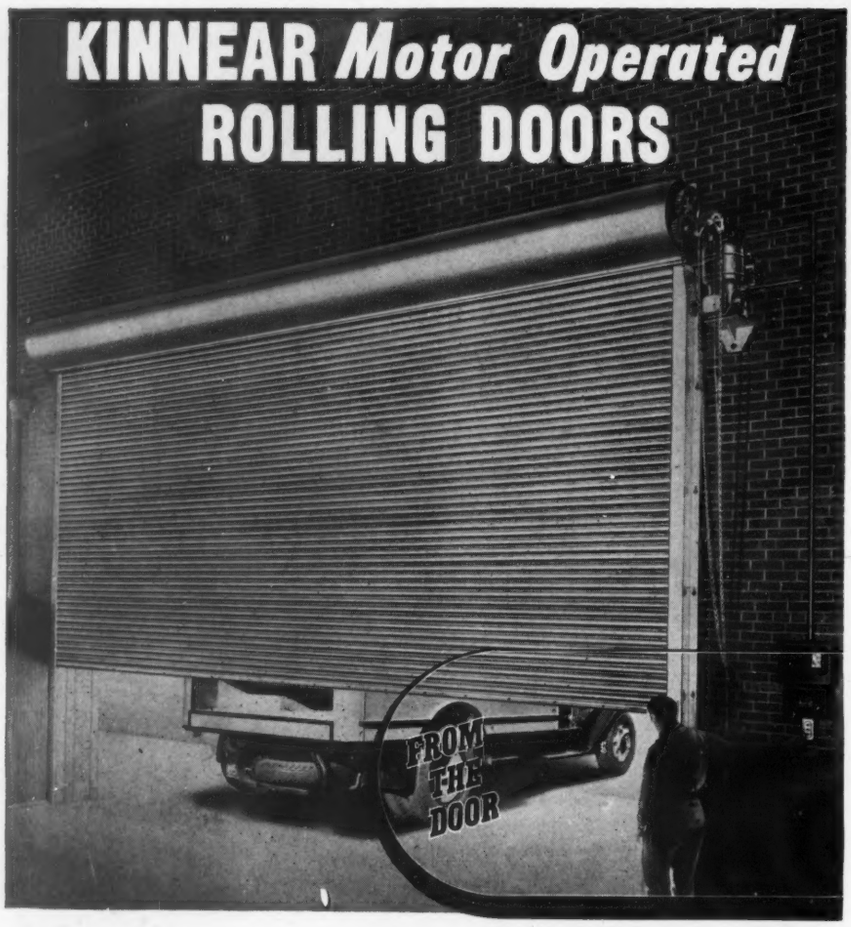

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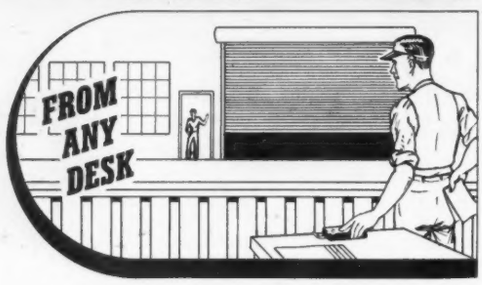
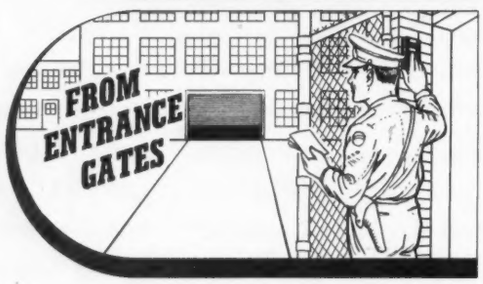
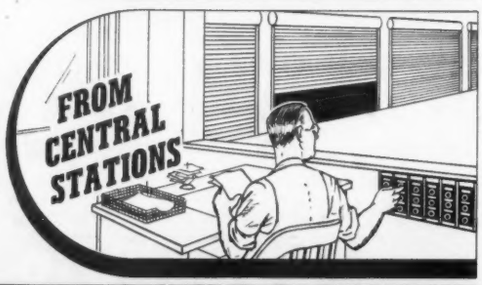






SAVING WAYS IN DOORWAYS **KINNEAR** ROLLING DOORS

Reviews

(Continued from page 110)

Many of us have been confronted with the twisted logic of *The Road to Serfdom* knowing that the answer must exist somewhere. Finer's dynamic book wittily demolishes the farce of "democracy by the impartial free market" and unmasks Hayek, et al., for the anti-democrats they are. This is required reading for any who have been entwined in Hayek's devious arguments.

There are other able defenders of planning. In varying fashion, Wallace, Chase, Lorwin, Beveridge, and Hansen indicate objectively what planning is and how indispensable it is to a high-geared society. Lorwin objects to labeling planning as "crystal gazing" or "blueprinting;" it is "an attitude of mind, a method of doing things, and a philosophy of social-economic organization and action." He feels that if the two scourges of the 20th Century—depressions and wars—are to be wiped out, we must forsake laissez-faire for a rational social guidance of economic activity. Lorwin has written many essays on planning and his book presents a theory and program for the Age of Planning.

Stuart Chase passes beyond a plea for planning. The time for academic discussion is over and today we must "plan or retreat to a handicraft culture like that of prewar India or China." The case studies in *Men At Work* indicate, though the power age ushered in this new approach, that democracy need not be sacrificed. Whether for a mammoth valley project or a small, depleted lumber community desperately seeking a firm economic base, planning can mean democracy invigorated by efficiency.

The current case for planning actually stands or falls on the acceptance of the *full employment* philosophy and program. It was *full employment* which detonated the planning hullabaloo, with Beveridge leading the way in England and Wallace supplying a Yankee version.

It isn't surprising that in England where a socialist government has been achieved democratically that there is fuller comprehension of the unemployment problem. Beveridge is concerned not only with the controls necessary for optimum employment but also desires to rationalize the economy. While industrial location is a major point in the Beveridge report, Wallace's program is limited to a job budget. This annual national goal for employment in private enterprise or government can help achieve full employment, which the Secretary of Commerce believes is within the reach of capitalism.

Beveridge puts little confidence in this. He declares, ". . . full employment is in

(Continued on page 114)

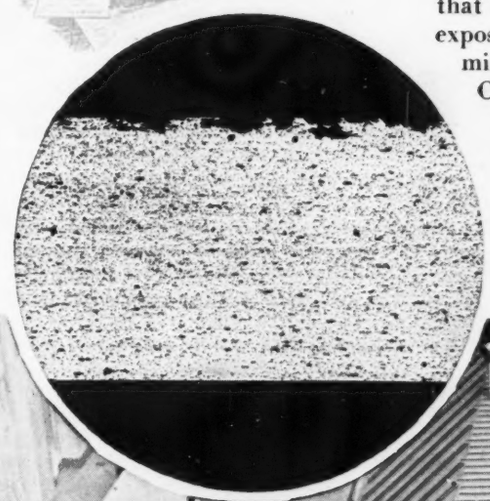
The Microscope confirms—

"Alcoa Aluminum roof in excellent condition after fourteen years in industrial Pittsburgh"

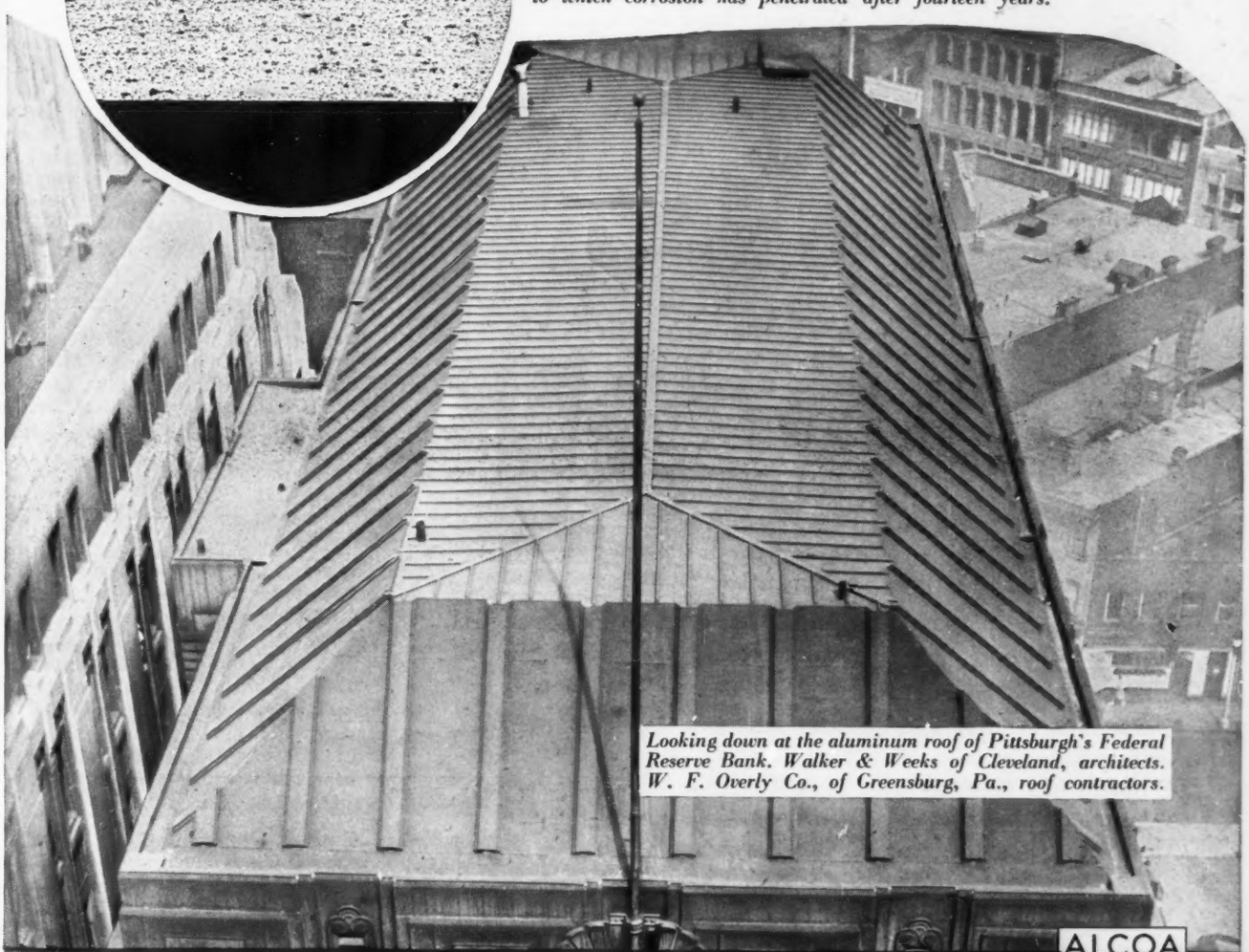
Visual inspections of this aluminum roof have been telling us right along, "Behaving fine". These observations were confirmed recently, following a fire under the roof, when portions of the sheet removed were given to Alcoa for microscopic examination and testing.

Strength of the samples is normal for this Alcoa Alloy, showing that its physical properties have not been impaired by 14 years' exposure. Corrosion, arch enemy of most metal roofs, has had only minor effect on the aluminum.

On the basis of these findings, Aluminum Research Laboratories make this prediction: There are many times 14 years' life left in that aluminum roof. ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh 19, Pennsylvania.



Cross section of this aluminum sheet, magnified 43.5 times. The black hollows at the top show the very limited extent to which corrosion has penetrated after fourteen years.



Looking down at the aluminum roof of Pittsburgh's Federal Reserve Bank. Walker & Weeks of Cleveland, architects. W. F. Overly Co., of Greensburg, Pa., roof contractors.

ALCOA FIRST IN ALUMINUM

ALCOA ALUMINUM

Reviews

(Continued from page 112)

fact attainable while leaving the conduct of industry in the main to private enterprise" but warns that if, contrary to this view, "it should be shown by experience or by argument that abolition of private property in the means of production was necessary for full employment, this abolition would have to be undertaken."

Wallace considers "housing . . . . . probably the largest of our new frontiers of job opportunities." If the real needs of the nation are to be met over a 10-year period, 16 to 18 million new units will be necessary with improvements in 9 to 10 million existing units. This is one of the higher estimates of the coming housing need.

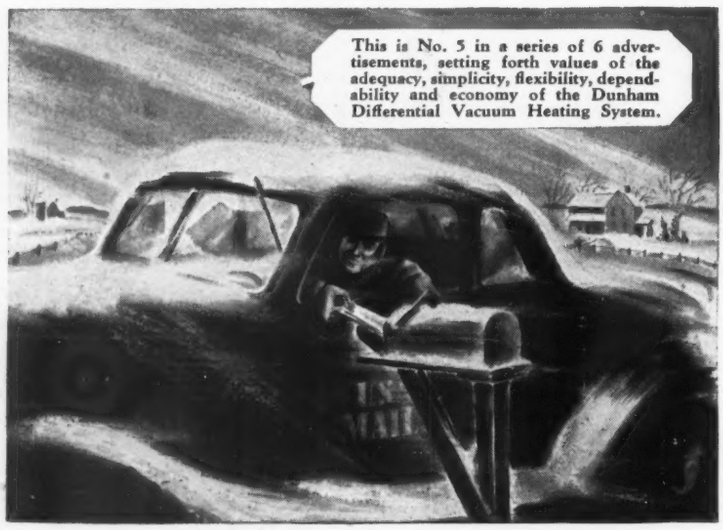
Good housing and full employment are inseparable goals because, Wallace points out, this vast demand cannot be met without continuous high level employment. Furthermore, a vigorous construction industry can contribute at least 4 million toward a national goal of 60 million jobs. And if jerry-building, booms, and crashes are to be avoided, the housing program must be integrated with an over-all employment setup. The market for construction must not be permitted to run in its usual roller-coaster fashion.

Hansen's little book is in rapport with the Beveridge-Wallace philosophy but is geared to the international plane. He is convinced that the world cannot achieve full employment if the United States does not solve its own problem and, above all, recognize the necessity of international collaboration for planning.

Although the *Reactionary Manifesto* (Finer's subtitle for the Hayek book) has found friends in many quarters, even more people have seen through the *planning-is-totalitarianism* cabal. Henry Wallace expresses their faith most simply and sincerely: ". . . . . there is a loud but limited group that seemingly believes it is the Devil's own sin to make any plans whatsoever. These people tell us that all planning is just plain Hitlerian tyranny. They profess to make no distinction at all between the absolute planned social-economic life of the regimented state and democratic planning to preserve our free enterprise system and our free way of life from the very dangers of totalitarianism that are inherent in inaction . . . . . those who spread such beliefs—whether they are conscious evildoers or just unwitting dupes—are spreading the seeds of our destruction as a free people . . . . . They are, whether they realize it or not, serving those who wrap themselves with the flag of patriotism and do the dirty work of scoundrels."

DEPENDABILITY

The Dependability of the Rural Mail Carrier in Scorching Heat or Winter's Storm Is Traditional.


This is No. 5 in a series of 6 advertisements, setting forth values of the adequacy, simplicity, flexibility, dependability and economy of the Dunham Differential Vacuum Heating System.

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For interesting illustrated Brochure No. 632 write to C. A. Dunham Company, 450 East Ohio Street, Chicago 11, Illinois.

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THINGS TO WANT

Planning Your Home for Better Living. Clarence W. Dunham and Milton D. Thalberg. Whittlesey House, McGraw-Hill Book Company, 330 West 42nd St., New York 18, N. Y., 1945. 278 pp. $4.00

How to Plan the Home You Want. Industrial Publications, Inc., 59 East Van Buren St., Chicago, Illinois. 32 pp. 25 cents

The world is now entering on one of its greatest eras of residential building. Prospective home owners are looking for helpful books on home planning. Great numbers of books on this subject will be published, some helpful, some not. The two publications reviewed here cover practically the same features of home planning, from financing to the finished house. They are far apart in value and appeal.

The book *Planning Your Home for Better Living* has two authors: an associate professor of civil engineering, who has previously written capably on reinforced concrete, and an advertising manager. The illustrations and text in general conform to the architectural thinking characteristic of this country in the early nineteen-twenties. In its 278 pages no new con-

(Continued on page 116)

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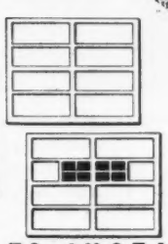

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Craw-Fir-Dor is strong. Made of durable Douglas fir. Exterior (waterproof) panels

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FIR DOOR INSTITUTE

Tacoma 2, Washington

The National Association of Fir Door Manufacturers

Reviews

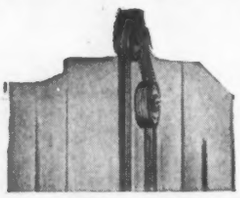
(Continued from page 114)

tribution to existing home building information is apparent.

The booklet *How to Plan the Home You Want* is superior to the Whittlesey House book. As the booklet states: "The thing that makes a house modern is its room arrangement, equipment and living features, not whether or not it has a flat roof." Using this sensible approach, it discusses in a brief but inclusive manner good and bad modern design. The open plan, departmentalized bathrooms, heating and air conditioning, radiant panel and solar heating, set-in and built-in equipment are among the subjects discussed. The two-color sketches throughout the booklet effectively supplement the text. A valuable check list of "32 points that indicate the trend of modern home" ends this unpretentious, excellent work.

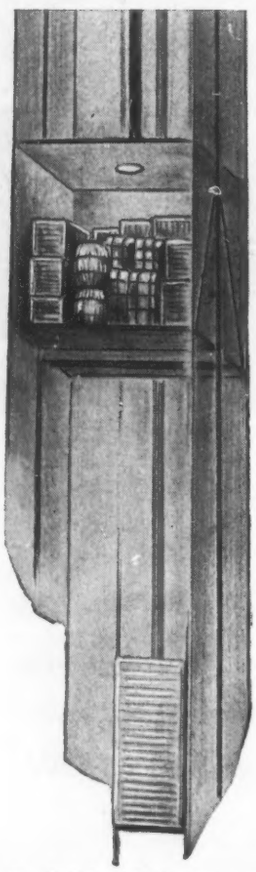
LAWRENCE E. MAWN, A.I.A.

FREIGHT ELEVATORS



by Sedgwick

THESE NEW SEDGWICK ELECTRIC ELEVATORS ARE EXPRESSLY DESIGNED FOR FREIGHT USE—ENGINEERED FOR RUGGED, WORK-A-DAY SERVICE MOVING MATERIAL AND MERCHANDISE WITHOUT BREAKDOWN, WITH MINIMUM MAINTENANCE.



These simple, hard working freight elevators are the result of more than 50 years' experience manufacturing elevators and dumb waiters—electric and hand power—plus the knowledge gained from wartime production of airplane elevators, freight and passenger elevators and galley dumb waiters for the Navy, Coast Guard and Merchant Marine.

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Periodicals

Reviewed by Maude Kemper Riley

THE ARCHITECTS' JOURNAL

45 The Avenue, Cheam, Surrey

September 20, 1945

England estimates a need for three to four million new houses in the next ten or twelve years. British architects, bent to the task of designing dwellings for fast erection and immediate occupancy, lean heavily upon prefabrication. Labor, it is understood, will be untrained in the building industry, and few construction machines are available.

In this issue is illustrated a house by Frederick Gibbard, a two-story, two-family prototype house, designed for the B.I.S.F. (British Iron & Steel Federation). It can be assembled in one-fourth the time it normally takes to erect a house.

But what a home! A pair of bare, harsh, box-like, steel-walled, steel-stair-railed, factory-painted, six-room houses standing as one house, with the only protuberances the two entrance windbreakers. The steel panels of which it is manufactured are two stories high, with doors and windows already in them; and on them is a coat of rough mixed paint and crushed stone. Workmen stand the panels up, couple them with enameled cover strips, fit in place the steel roof trusses, and lay sheet steel over them. Partitions are of plaster or fiber board; ground floor is solid concrete with linoleum finish; staircase is of spot-welded pressed steel construction, with treads wood-faced.

Slightly better looking, due to its grouped casement windows, and to the reinforced concrete walls and timber-trussed roof, used instead of all-steel construction, is the Wates System house designed by Kenneth W. Bland, A.R.I.B.A. It has been authorized by the British Minister of Works. (See *Architects' Journal* for August 16 and *Architectural Design and Construction* for August.) But the spirit of home is missing in both of them. No real and good family life seems possible.

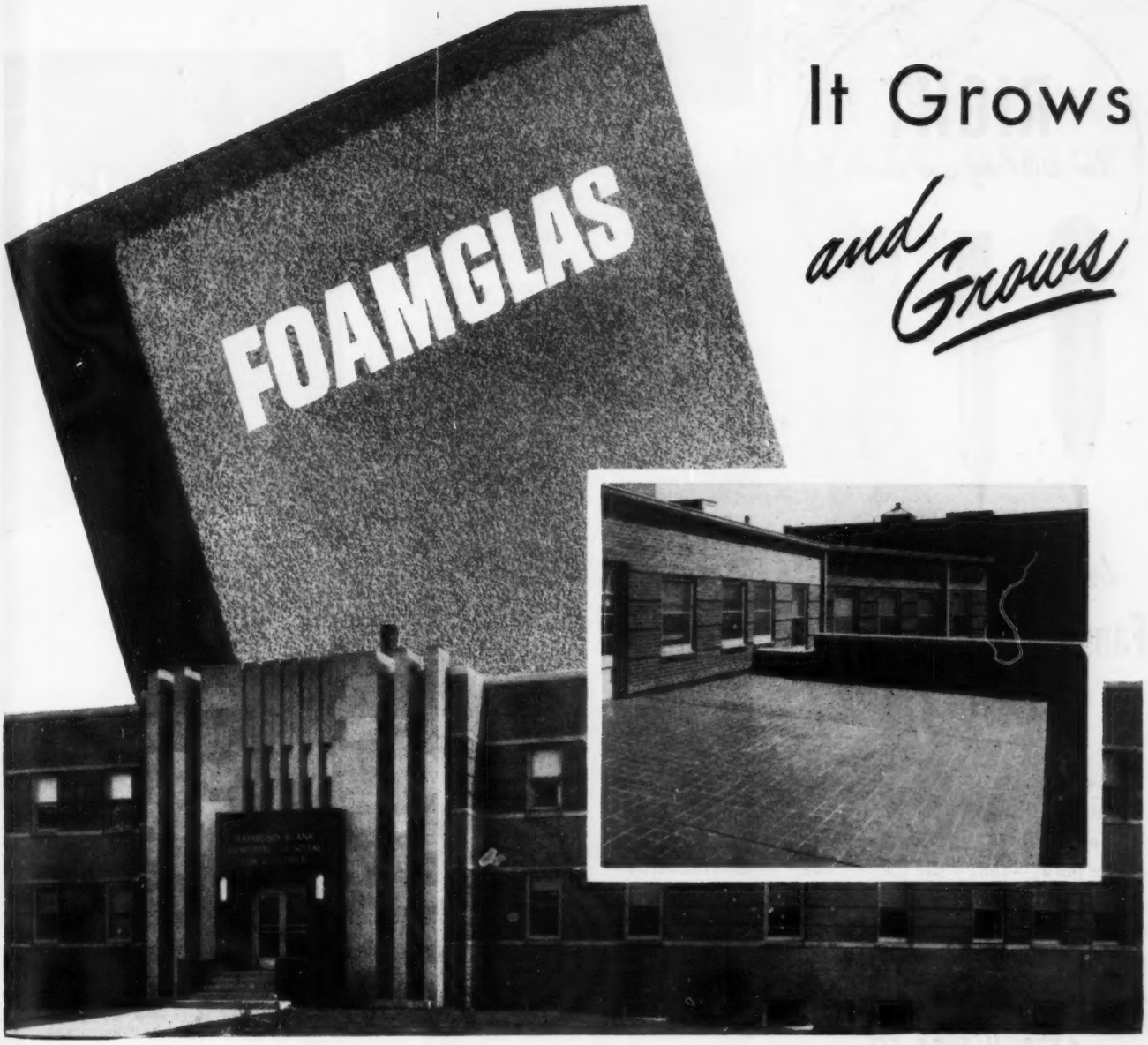
We turn to the pages of *Life* for October 29, where the spirit of England is described in terms of great and ancient country manors, and baronial halls. If these are the essence of England, although strictly for the aristocratic class, how can there be place in that country for these cruel little houses!

September 27, 1945

Viviendas Argentinas, a publication from Buenos Aires, gives material on two houses designed by Alejo Martinez, which the British weekly publishes in this issue, in plan and photograph. Their graceful interior features reflect in the exterior design, in that room proportions and fortunate placement of their ample doors, windows, and terraces are allowed to carry their character to the exterior in each case. Both

(Continued on page 122)

It Grows *and Grows*



In the new Raymond Blank Memorial Hospital for Children, at Des Moines, Iowa, a wide expanse of roof promenade, or sun deck, is insulated with PC Foamglas. Under the red tile wearing surface PC Foamglas retards travel of the intense heat of the sun to rooms below. Light in weight, rigid, strong, PC Foamglas does not crack or crush under floor loads heavier than are usually encountered. (General Contractor, Kucharo Construction Co., Des Moines, Iowa.—Architect, Wetherell and Kanison, Des Moines, Iowa—Roofer, Barrick and Sons, Des Moines, Iowa.)

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Reviews

(Continued from page 116)

are friendly-looking houses, simple in plan, built of warmly-textured materials, and though conventional enough as South American dwellings, in many ways original.

In an editorial discussion of space heating (a term based on a modern architectural idiom, but actually undescriptive of the heating problem), the question is challengingly stated: Is the object of heating installations to heat buildings, or the people inside them?

The heating engineer's ultimate aim should be neither, is the reply given. His is a science much in need of humanizing. The human body, says this English editor, does not require to be heated, but to be cooled . . . . some stimulus is required, so that comfort promotes activity rather than relaxation. The required rate of cooling needed for bodily comfort varies—from minimum when lying down, to maximum when at heavy physical work. Air conditioning is too unobtrusive, psychologically speaking. One likes the comfort of an open window in the summer, a visibly radiant source of heat in winter. One should also consider the "electrical condition of the environment"—a subject little gone into, the editor complains.

ARCHITECTURAL DESIGN AND CONSTRUCTION
26 Bloomsbury Way, London, W. C. 1, London, England
September 1945

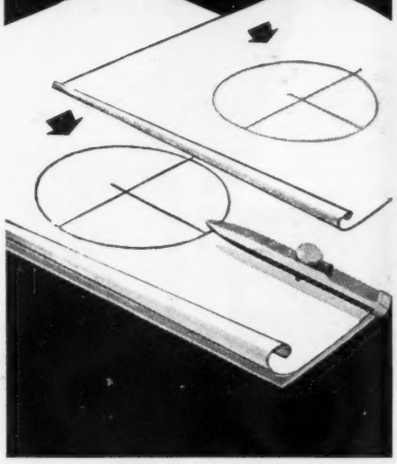
An enthusiastic group of modern architects are at work in Brazil, where they have undertaken, among other things, to give Brazil the schools she needs for a renewed national resolution to educate her young. Under the influence of Le-Corbusier, who was invited to Rio de Janeiro as consultant some years ago, these architects, headed by Lucio Costa and Oscar Niemeyer, have produced some fine and spacious constructions of reinforced concrete, built around generous outer court spaces, swimming pools, etc. They have used small windows on the north (sunny) side of buildings, but on the south (cool) side have provided openings wide and high. Portuguese baroque has gone by the boards; and this new (and quite natural, as to materials used) style is begging study by architects anywhere and everywhere in the world.

HOUSE & GARDEN
420 Lexington Ave., New York, N. Y.
October 1945

A "Sight and Sound Room" is offered for readers' consideration, though not urged. Thickly carpeted, it is furnished with lightweight chairs that may be turned towards television screen, or

(Continued on page 126)

Tracing cloth that defies time



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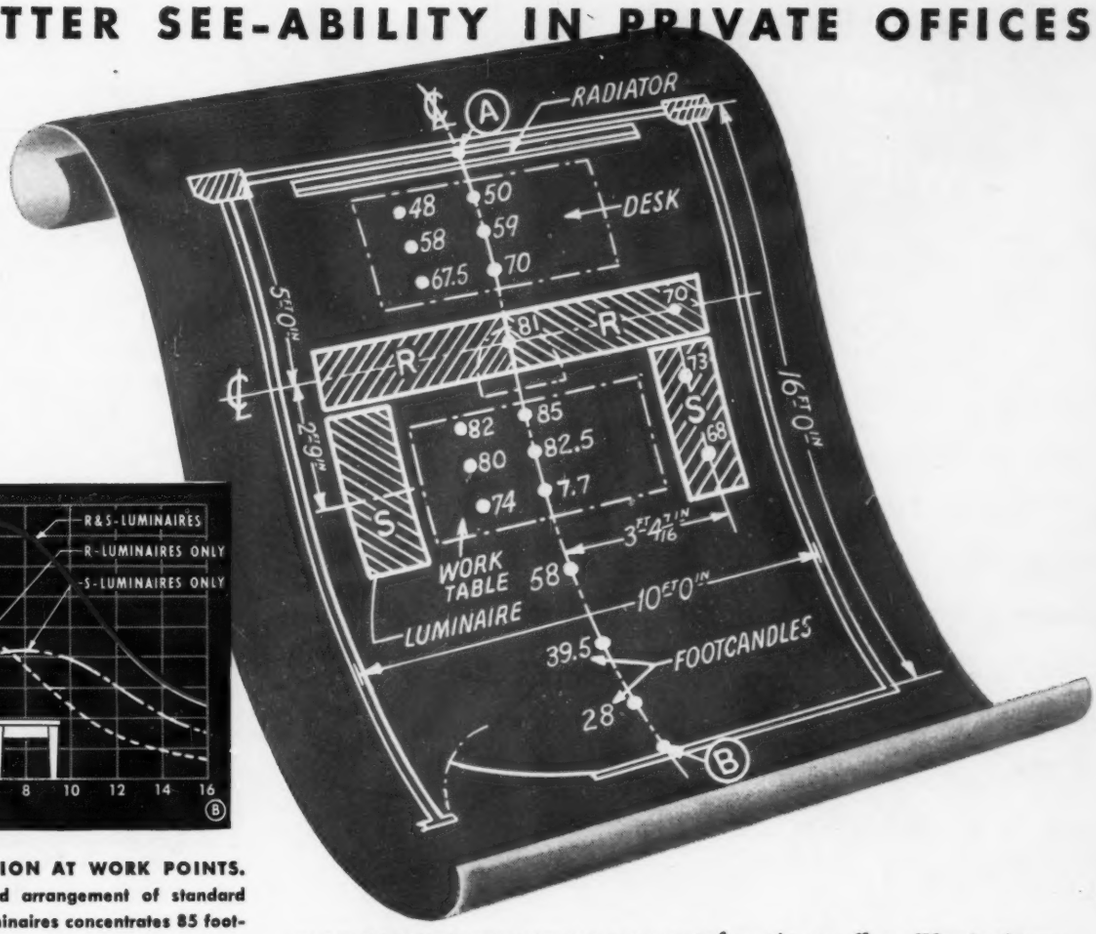
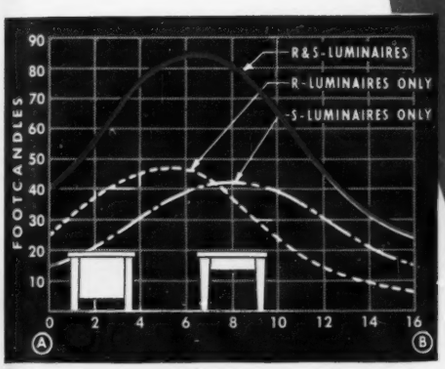
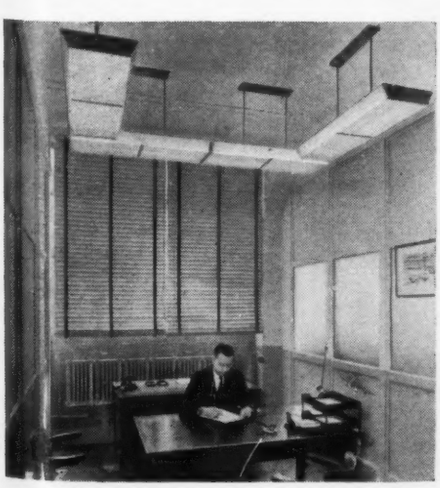




GREATER ILLUMINATION AT WORK POINTS. An ingenious U-shaped arrangement of standard LW-160 Fluorescent Luminaires concentrates 85 footcandles at the worktable, with about 65 footcandles on the desk. Greater seeing comfort is further provided by a low brightness contrast over the surrounding area. After 1000 hours of burning, the average illumination from A to B was 57 footcandles.

BELOW: Westinghouse LW-160 Fluorescent Luminaires provide a shielded light source and soft diffused illumination. U-shaped arrangement directs reflected glare away from the eyes of the person at the desk.



IN DEVELOPING A NEW LIGHTING TECHNIQUE for private offices, Westinghouse Lighting Engineers had two basic facts to start with. One was that practically all work in an office of this type is carried on by an individual at a desk or worktable. The other was that desirability for utilizing natural daylight makes few locations, other than adjacent to a window, suitable for desk and table.

These engineers concentrated their efforts on providing maximum seeing comfort to the person working at the desk or table. This was accomplished by having an abundance of illumination at the work points, as shown by footcandle distribution chart at the left. At the same time, direct and reflected glare are eliminated with proper control of brightness.

Such achievement proves that good lighting is not the result of good lighting fixtures alone, but is a product of correct fixture design *plus application know-how*.

Bulletin B-3662 describes this new lighting technique in greater detail. For a free copy of this helpful bulletin, contact your nearest Westinghouse Office, or write direct to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-04068

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Reviews

(Continued from page 122)

home movie screen, set in the darkened end of a room; or backed to the wall for listening, when phonograph, radio, or concert (there's a baby grand piano) is in order. The whole is accomplished in 15 x 22 feet.

Another item headed "Active Furniture" is a study in cramming library and dining room into one small space, with seating capacity for ten or more.

INTERIORS
11 East 44th St., New York, N. Y.
October 1945

To make shoppers feel aristocratic while buying a popular though overdesigned shoe, such as Ansonia Shoe Store offers, Morris Lapidus showed interior-designer Annette Siegel Fried a few tricks. Baroque gewgaws and display niches are only the beginning of the horrors he dreamed up for their latest store. Fat central pillars disappear into floodlighted ceiling cavities, and themselves drip with spiraled ornamentation imposed over marbalia papers in four colors. Wavy walls, concave strips of pickled pine veneer, suspended canopies over counters, love seats, induce the mood they were after.

How Bill Pahlman, New York interior designer who for several consecutive years had all to himself Lord & Taylor's sixth floor (where he went the whole way on finery and expensive custom-built decorations and fittings), is a captain in the U. S. Army; how he transformed a gymnasium into an officers' club with paint brush, dye pots, and many bolts of summer uniform twill, is illustrated excitingly in this issue.

MAGAZINE OF ART
22 East 60th St., New York 22, N. Y.
October 1945

Articles written in 1933 by Alfred H. Barr, Jr. (now research director of the Museum of Modern Art, but at that time and for 15 other years, director) are published in an issue devoted to Art in the Third Reich. Mr. Barr spent some time in Stuttgart deploring the "evidences of official hostility" which had begun to "amount practically to suppression" of all international styles in new buildings for Germany. Three articles, of which one (containing above excerpt) deals with architecture, are here published for the first time. The editors were unimpressed by their significance at the time they were written.

Second half of the issue is given to Lincoln Kirstein, attached to General Patton's Third U. S. Army, and one-time adviser to the Museum of Modern Art on Inter-American affairs and other matters. Kirstein reports from Germany upon the extent of the reactionary program that set in officially, soon after Barr sadly (irately, perhaps) took his leave of that country.

PROGRAM

PENCIL POINTS "PITTSBURGH" ARCHITECTURAL COMPETITION

For the Design of A House *for Cheerful Living*

THE PRIZES

First Prize	$ 2,500.00
Second Prize	1,500.00
Third Prize	1,000.00
Fourth Prize	500.00
25 Mentions at $100 each	2,500.00
8 Special Prizes at $250 each for details showing intelligent use of glass on the interior	2,000.00
TOTAL	$10,000.00

The sponsor may, in addition, purchase any of the unpremiated designs for $100. each.

All parties to this competition agree that the Jury of Award has authority to make the awards and that its decisions shall be final.

THE JUDGES

Pietro Belluschi,
A.I.A. Portland, Ore.
Ralph Flewelling,
A.I.A. Los Angeles, Cal.
J. Byers Hays,
A.I.A. Cleveland, Ohio
Robert M. Little,
A.I.A. Miami, Fla.
Louis Skidmore,
A.I.A. New York
Hugh A. Stubbins, Jr.
Boston, Mass.
Philip Will, Jr.
A.I.A. Chicago, Ill.

Authorized by
Reinhold Publishing Corporation

Sponsored by
Pittsburgh Plate Glass Company and
Pittsburgh Corning Corporation

Conducted by Kenneth Reid, A.I.A.,
Professional Adviser

THIS competition is open to all architects, architectural draftsmen, and architectural students. Under a ruling by the American Institute of Architects Committee on Competitions, Institute members are permitted to enter this competition. Contestants may submit more than one design. No employee of either Reinhold Publishing Corporation or the sponsors is eligible.

THE COMPETITION CLOSES AT 6 P.M., MONDAY, FEBRUARY 26, 1945

PENCIL POINTS
"PITTSBURGH"
ARCHITECTURAL
COMPETITION

Preamble

PENCIL POINTS, which has in past years run many successful educational architectural competitions, presents again a challenge to the ingenuity of the American architectural designer. The objectives are first to bring up to date, in line with recent technical advances, the general understanding of the ever-present problem of planning the small homes of the Nation; and second, to discover and give recognition to new design talent among the thousands of architectural men, young and old, who will soon be called upon to give form to the future physical environment of our people.

We have a theory, expressed from time to time in these pages, that there is developing among contemporary architects a clearer and more straightforward philosophical approach to design than was generally the case fifteen or twenty years ago. This will lead, we think, to a higher average of architectural excellence in the homes to be built during the years that lie ahead. It is our hope, shared by the sponsors of this competition, that the designs submitted for consideration by the Judges will be many and varied and that, subject to the discipline of good taste and sound realism, they will represent the best thinking that can be brought to bear on the problem by the American architects of today.

Problem

MANDATORY. The design of a house in which an average young American family in an average suburban residential community can make its permanent home in a world at peace. The client, an average fellow who may as well be called "G.I. Joe," is a man in his early thirties who has served in the armed forces of his country during the war. His wife has done her part by working in a munitions plant, while their two children—a boy of ten and a girl of six—have been farmed out with the grandparents. The assumption is to be made by competitors that the war is finally over and that the reunited family is determined to have its own home. Joe has got his old job back and his employer, pleased to have him, has plans for his promotion. A respectable accumulation of war bonds plus a loan from a local bank under the terms of the G. I. Bill of Rights makes the fulfilment of the family ambition possible; so Joe takes the first step and looks up a good architect.

A reasonably priced quarter-acre plot in a newly subdivided, fairly level area is decided upon as the site for the new home. This lot is roughly rectangular with a frontage of 75 feet along the southerly side of a paved street running southeast-northwest. It is 140 feet deep to the rear property line where it adjoins a neighbor's lot on the next street. A local restriction says that no building may be placed nearer than 30 feet to the street or nearer than 15 feet to the side or rear lot lines. The usual utilities are available.

PENCIL POINTS "PITTSBURGH" ARCHITECTURAL COMPETITION

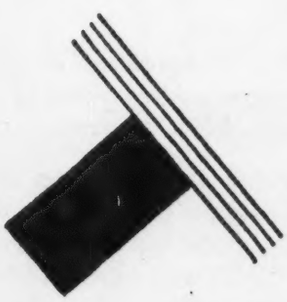
Joe and his wife have no preconceived notion of what their home should look like beyond desiring it to be up-to-date and attractive and suited to the local climate. While they are sympathetic to the healthy contemporary trend toward greater freedom in architecture they do not wish their home to be so unusual that it will be unduly conspicuous. They want light and cheerful interiors and are conscious of the feasibility today of having somewhat larger glass areas than were commonly used ten years ago. They depend upon their architect to advise them upon the building materials and equipment to be used. They are, of course, interested in keeping within their budget but they know that maintenance costs must be considered as well as initial outlay. Mrs. Joe expects to do her own housework and is anxious that this should be made as easy as possible by good planning and thoughtful detailing, so that she may have more time to devote to her children from whom she had to be separated during the war. Like most homemakers today, she particularly wants her kitchen and bathroom accommodations to be colorful, convenient, and easy to keep spotlessly clean.

Careful study of the client's needs—in conjunction with his present resources, his income, and the local building costs—leads the architect to conclude that his plan must be limited to 1400 square feet of floor area disposed on one or two stories. Not to be included in this limiting figure are the necessary single car garage and an adequate heater room either above or below grade.

Competitors are expected to provide for the comfortable and economical housing of the client and his family within the prescribed limits of area. Disposition of indoor and outdoor space, number of rooms, circulation, and accessories are left to the discretion of the designer.

Since G.I. Joe's number is legion, and since he may be found after the war in any part of the United States, it is left to each competitor to determine the locale in which his client is assumed to live. This chosen location must be clearly designated on the drawing and the Judges will take into account the regional suitability of the design. The sponsors, while naturally desirous of promoting the increased use of their products, are anxious that competitors shall use common sense and avoid extravagance in the disposition of these products. The designs will, it is hoped, show houses that might be appropriately built by the average family described in the program, at a cost of between sixty-five hundred and eight thousand dollars. This cost range is merely a suggestion and not a strict limitation in either direction.

Considerations of the Jury of Award



(1) The architectural merit of the design, including its regional suitability, and the ingenuity shown in the development of the plans to fit the requirements of the problem.

(2) Practicability and economy of construction.

(3) The intelligence with which the products of the sponsor are appropriately incorporated into the design.

(4) The special prizes will be awarded on the basis of the excellence of the interior detail shown on the drawing.
Quality of delineation and composition of the drawing will not have undue weight with the Jury.

COMPUTATION OF FLOOR AREA: *Mandatory.* Measurement of enclosed spaces shall be taken from the inside of exterior walls with no deductions for partitions. Open porches or partly enclosed porches shall be counted as fifty percent of their actual area. Entirely enclosed sun porches shall be counted at their full area. Designs found to exceed 1400 square feet total floor area (exclusive of garage, heater room and basement, if any) will not be considered.

DRAWINGS: *Mandatory.* All required drawings for each design shall be composed on a single sheet of opaque white paper, trimmed to exactly 25″ x 36″. The sheet is to be read with its long dimension vertical and shall contain the following items, in *opaque black ink:* (No diluted ink, color, or wash.)

(1) Floor plans at a scale of ⅛″ equals a foot. The use and dimensions of each room or space must be clearly indicated in lettering large enough to be legible when reproduced at one-quarter size. Show suggested furniture arrangement.

(2) Perspective of the house, rendered in ink with pen or brush and so laid out that true heights may be measured at a scale of ¼″ equals a foot on the corner of the building nearest the Station point.

(3) Elevations, at ⅛″ equals a foot, of the two sides of the house not shown on the perspective.

(4) Plot plan at any convenient legible scale showing location of house and garage and arrangement of the property.

(5) Detail—in plan, section, and elevation, at ¾″ equals a foot—involving the application of one or several of the sponsors' products in some interesting way or ways which may add to the attractiveness or efficiency of the home. These products include polished plate glass, plate glass mirrors, tempered glass, colored structural glass, figured glass, glass block, and others. The good judgment with which this detail of the design is developed will be the basis upon which the eight special prizes will be awarded.

(6) Separate single line diagram of floor plans at small scale indicating method of computing total inside floor areas.

(7) Drawings shall bear the title "PENCIL POINTS—PITTSBURGH ARCHITECTURAL COMPETITION," and shall be signed with a device or *nom-de-guerre.* The assumed geographic location for the design also shall be noted.

(8) A single sheet of 8½″ x 11″ paper, to be enclosed with the drawing, shall contain a brief typewritten outline specification listing the principal materials suggested for the house and noting color schemes where a significant factor.

ANONYMITY: *Mandatory:* Drawings shall contain no identifying mark other than a device or *nom-de-guerre.* Each drawing shall be accompanied by a plain opaque sealed envelope bearing the same device or *nom-de-guerre* as the drawing and containing a slip of paper on which the true name and complete address of the competitor are stated. The envelopes will be opened by the Professional Adviser in the presence of the Jury, only after the awards have been made.

DELIVERY OF DRAWINGS: *Mandatory.* The drawings shall be securely wrapped, either flat or in a strong tube not less than 2½″ in diameter, and addressed to Kenneth Reid, Professional Adviser, PENCIL POINTS—PITTSBURGH ARCHITECTURAL COMPETITION, 330 West 42nd Street, New York 18, New York. In the case of drawings sent by registered mail or express, competitors must not demand a return receipt. Drawings shall be delivered to PENCIL POINTS office, 330 West 42nd Street, New York, or placed in the hands of the post office or express companies, not later than 6 p.m., standard time, Monday, February 26, 1945. Drawings will be accepted at the PENCIL POINTS office at any time before the close of the competition. They will be fully insured from the hour of their receipt.

Drawings submitted in this competition are at the competitor's risk. Reasonable care will be exercised, however, in their handling, safekeeping, and packaging for return.

EXAMINATION OF DESIGNS: The Professional Adviser will examine the designs and records of their receipt to see that they comply with the mandatory requirements of this Program. The Jury will make no awards to any design not complying with mandatory requirements.

The Professional Adviser alone will have access to the drawings until they are placed before the Jury of Award. No drawing, whenever received, will be shown or made public until after the Awards by the Jury.

JUDGMENT: The Jury of Award will meet at Hot Springs, Virginia, on March 14, 15, and 16, 1945.

ANNOUNCEMENT OF THE AWARDS: The Professional Adviser will send by mail, to each competitor, the names of the winners of the Prizes and Mentions as soon as possible after the awards have been made and the envelopes have been opened. The announcement will be published in the April 1945 issue of PENCIL POINTS. Requests for this information by telephone and telegraph will not be answered.

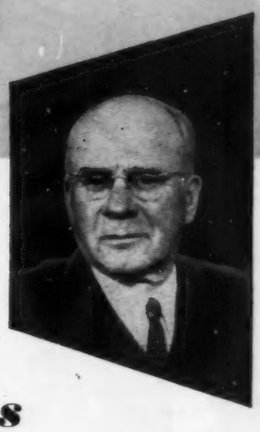
REPORT OF THE JURY: The winning designs and a full report, stating the reasons for the awards and offering helpful criticism and comment will be published in PENCIL POINTS for May 1945. The Report will be sent to each competitor.

THE PRIZE DESIGNS: The designs awarded Prizes and Mentions are to become the property of the Sponsors. Since this is an educational competition, and none of the houses are to be actually built, no further drawings will be required of the competitors. Whenever and wherever any of the designs are published or exhibited, the names and addresses of the designers will be clearly displayed and all resulting inquiries will be directed to them.

RETURN OF DRAWINGS: Non-premiated designs which are not reserved for exhibition or publication will be returned in a reasonable time, postage and $50.00 insurance prepaid.

NOTICE TO COMPETITORS: Any architect or draftsman who has difficulty in securing paper of the size called for by the mandatory requirements of the foregoing program will be provided by PENCIL POINTS with a sheet of Whatman's 133-pound Hot Pressed paper, Double Elephant size, for one dollar. The paper will be shipped prepaid not earlier than January 1, 1945, in a tube suitable for remailing the finished design. Address remittance to PENCIL POINTS, 330 West 42nd Street, New York 18, New York.

Light
Modern Schoolrooms



GENERAL ELECTRIC presents this new lighting design for the schoolrooms of tomorrow, by E. POST TOOKER, of Tooker & Marsh, New York.

A new idea for cheerful rooms and eyesight protection

"Today young eyes are being called upon to do more seeing tasks than ever before. They need the benefits of double protection—more light to see with and a quality of light that reduces glare and shadows.

"To achieve this, we suggest installing G-E Fluorescent lamps in a new type of continuous-row fixture overhead and constructing an arched ceiling between each line of light. This 'new construction' idea distributes light smoothly, minimizes contrast and makes for easy cleaning and replacement of lamps."

This new brochure, "Arches of Light," illustrates in greater detail the interesting school lighting ideas of E. Post Tooker. To get your copy, write General Electric Company, Department 166-PP-12 Cleveland 12, Ohio.

G-E LAMPS

GENERAL ELECTRIC

New homes

A winning design of the architectural competition for "A House for Cheerful Living" conducted by *Pencil Points*, sponsored by Pittsburgh Plate Glass Company and Pittsburgh Corning Corporation. *Architect:* Oliver Lundquist, Washington, D. C.

will stay modern longer

say mortgage loan experts . . . when equipped with Servel All-Year Gas Air Conditioning

IT won't be long before all new homes will *have* to have all-year air conditioning to be considered "up to date." So you protect your clients, insure the modernity of their houses now and in the future when you specify Servel *All-Year* Gas Air Conditioning.

The Servel unit provides a wonderful "New Quality of Living" for modern homes. It's the only equipment on the market that heats and humidifies in winter, cools and dehumidifies in summer, *all with a single unit!* And it's the only equipment of its kind that can back up its claims with hundreds of successful test installations in operation from coast-to-coast.

As evidence of its value, Mr. P. A. Benson, President of the Dime Savings Bank of Brooklyn, says: "In granting mortages, we carefully scrutinize a home not only for its immediate value, but also for its value ten or twenty years from now. We agree that *All-Year* Gas Air Conditioning is a development that will be included in more and more homes. A home that has an *All-Year* Gas Air Conditioner will, in our opinion, tend to stay 'modern' longer and have a greater resale value over a longer period of years."

Gas Company air conditioning engineers, trained by Servel, will be glad to help you specify and supervise installation of the unit. For complete details about the Servel *All-Year* Gas Air Conditioner, get in touch with your local Gas Company, or write direct to Servel, Inc., 4512 Morton Street, Evansville 20, Ind.

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From Bismarck to Miami

The new Servel *All-Year* Gas Air Conditioner has behind it ten years of research . . . plus hundreds of successful test installations already operating—some for as long as four years—in every part of the country.

RICH'S-ATLANTA

presents

"Georgia Builds" ARCHITECTURAL COMPETITION

conducted under the code of

American Institute of Architects

by Progressive Architecture

Problem: *A realistic house for a family in Georgia*

PRIZES	
First Prize	$3,000
Second Prize	1,500
Third Prize	1,000
Fourth Prize	500
25 Mentions $100	2,500
Special Georgia Prize	1,500
Total	$10,000

JURY

Thomas Harlan Ellett, F.A.I.A., New York
Ernest A. Grunsfeld Jr., F.A.I.A., Chicago
Richard Koch, F.A.I.A. . . New Orleans
Ernest J. Kump, A.I.A. . San Francisco
Roy F. Larson, F.A.I.A. . . Philadelphia
Roland A. Want, A.I.A. . . . . Detroit
Robert Law Weed, A.I.A. . Coral Gables

RICH'S

ATLANTA

RICH'S, INC. of Atlanta, largest department store in the South, sponsors this nation-wide Architectural Competition in collaboration with Progressive Architecture with prizes totaling $10,000.

The problem calls for a small house for a family living in Georgia. The materials may be anything that will benefit your design.

Henry J. Toombs, A.I.A. of Atlanta and Kenneth Reid, A.I.A. Editor of Progressive Architecture are the professional advisors. The competition started with the publication of the Official Program in the October issue of Progressive Architecture and closes on January 21, 1946. There are no entry blanks, no fees, no material limitations.

START NOW—to design your idea of a typically American home. Rich's plans to build the winning design. There is still time. Send for your copy of the reprint of the Official Program.

KENNETH REID, A.I.A.
Progressive Architecture, 330 West 42nd Street
New York 18, N.Y.

Please send me without obligation, a reprint of the Official Program for the Progressive Architectural—Rich's, Inc. Architectural Competition.

NAME_____

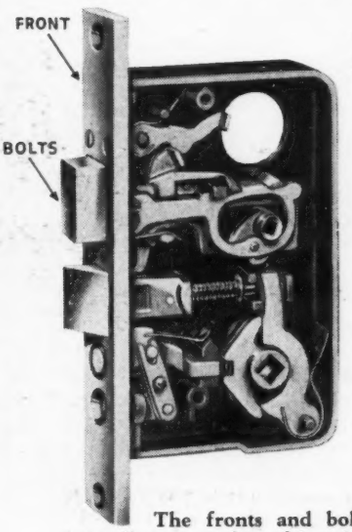
ADDRESS_____

CITY and ZONE_____ STATE_____

Lockwood Leads

WITH PROVED FEATURES FOR POSTWAR BUILDING

The Evidence



The fronts and bolts (as well as a number of interior parts) of Lockwood Standardized Locks are made of forged brass and bronze—providing reserve strength, excellence of finish and smooth operation. Hubs and stop work have been held closely to standardized dimension through the use of forgings.

Lockwood Polyflex* Knob with French type shank and tops provides a beautiful example of single brass forgings, accurate in detail and perfect in finish.

* A Lockwood feature knob incorporating interchangeable tops.

. . . brass forgings, for instance.

Superiority of forgings over castings is apparent in greater strength, finer detail, better finish.

The forging process increases tensile strength. Brass sand castings will test to approximately 23,000 lbs. per square inch, and brass forgings to well over 70,000 lbs. per square inch.

Forgings are held within closer limits in the die, resulting in greater accuracy of the finished part.

Tremendous pressures applied in forging produce a dense structure free from minute sand holes —a surface that takes and *holds* plated finishes.

For several years prior to the war, Lockwood employed forgings for many lock parts usually made of castings. This policy will be continued—and further developed wherever the superior features of forgings will provide you with more durable, better operating and better looking Lockwood Builders' Hardware.

You can always look to Lockwood for *hidden* values as well as for outstanding style and features in Builders' Hardware.

You will find Lockwood hardware specifications simplified in Sweet's Architectural File 17b1, 1945 edition. A limited number of additional copies is available. Write for yours, if interested.

A-7

LOCKWOOD HARDWARE MFG. CO.
FITCHBURG, MASSACHUSETTS
Division of Independent Lock Company

The "Dream Suite," conceived by Rohm & Haas to show home uses for PLEXIGLAS, recently attracted over 50,000 visitors at John Wanamaker's Philadelphia store. PLEXIGLAS-enclosed bedroom (above), built small for low-cost air-conditioning, looks spacious . . . has PLEXIGLAS mural "painted" in light.

In the bathroom, the medicine cabinet, lined with PLEXIGLAS shelves, has red PLEXIGLAS flap at top, marked "poison." Washbasin and towel bar are PLEXIGLAS, too, as is the illuminated wall clock. Clear PLEXIGLAS handles on faucets are indelibly marked hot and cold with dots of color.

now . . .

BUILT-IN BEAUTY WITH

Plexiglas

Permanent crystal clarity, high impact strength, "light-piping" properties make Plexiglas the outstanding plastic for home architecture . . .

Famed for service in transparent sections on fighting aircraft, PLEXIGLAS at last is fully available for peacetime purposes. Now its unique combination of properties can be employed by architects to execute new concepts of beauty in home construction.

WITH PLEXIGLAS, CRYSTAL-CLEAR WALLS and enclosures shaped in graceful, sweeping curves are entirely practicable. The plastic can be formed at relatively low temperatures . . . cut, drilled or machined as easily as wood. Although less than half the weight of glass, transparent PLEXIGLAS withstands severe impact without breaking.

WITH PLEXIGLAS, LUMINOUS MURALS and radiant walls, producing original and dramatic effects, are readily fashioned. These applications are made possible by "light-piping," a phenomenon which occurs when a sheet of PLEXIGLAS is lighted at one edge. The light is transmitted to the other edge, escaping *only* at engraved, painted or sanded surfaces. Three-dimensional effects are

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Engraved, edge-lighted PLEXIGLAS shower stall has four spray bands, separately controlled by PLEXIGLAS knobs, duplicated inside shower. Scales set in floor register weight on eye-level PLEXIGLAS panel. Screen of PLEXIGLAS prisms (right) provides privacy for toilet compartment, yet admits ample light.

The "Dream Suite" boudoir features radiant walls of PLEXIGLAS attractively etched and "painted" in light, and a luxurious, upholstered PLEXIGLAS bench. PLEXIGLAS trays and shelves in swing-out door of dressing table, and snag-proof PLEXIGLAS drawer linings have rounded corners for easy cleaning.

btained by edge-lighting several sheets of LEXIGLAS, each carrying a different design.

OR DECORATIVE ACCESSORIES and furshings, too . . . PLEXIGLAS is ideally suited. he crystal-like plastic adds gleaming new eauty wherever it is used.

ransparent PLEXIGLAS . . . beautiful, strong nd shatterproof, readily formed to any esired shape . . . may be just the homeonstruction material you've been seeking to o justice to your new ideas. Let's talk them er . . . perhaps we can be of help to you.

lephone or write our Philadelphia lice, Dept. C3, for free copy of e PLEXIGLAS DESIGN MANUAL, ing practical suggestions for using LEXIGLAS, and for reprint of the *odern Plastics* article "Transparcy in the Home," giving full details PLEXIGLAS applications illusated here.

Only Rohm & Haas makes PLEXIGLAS

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ETROIT · LOS ANGELES · NEW YORK

Cold water pouring into a heated copper gutter during test in the Revere Laboratory

WE USED HEAT TO GET "Light"

This photograph, of an experimental copper gutter being tested in the Revere Laboratory, was taken by light that was mostly heat. For the kind of light Revere was seeking in this research was information, knowledge, understanding — that we could pass on to you.

To get it, we had to bring the sun indoors, or at least its summer heat. Also sudden rainstorms, to create a temperature range of 160°. And put under them a typical sheet copper gutter such as any skilled worker might install on a building. Then we could *see* what happens when cold rain hits sun-baked copper, could measure any movement in the metal—could, in short, find out why sheet copper construction sometimes fails, even when materials, design and workmanship all appear virtually perfect.

From these and other Revere tests came the application to sheet metal construction of the basic but simple principle of columnar strength—from which we have worked out new data and methods that reduce this type of construction to a matter of engineering design.

All these facts are fully covered in the new Revere booklet, "Copper and Common Sense." To be sure of receiving a free copy, write today to the Revere Executive Offices. Revere materials are handled by Revere Distributors everywhere. For help in difficult problems, call on the Revere Technical Advisory Service, Architectural.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

Executive Offices: 230 Park Ave., New York 17, N.Y.

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N.Y.—Sales Offices in principal cities.

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They're NEW! They're STARTLING! They're PERMANENTLY BRILLIANT!

Safetee Mirrors

"SEALED BRILLIANCE"

PATENT APPLIED FOR

These remarkable new SAFETEE GLASS MIRRORS introduce—for the first time—four outstanding features and advantages:

1. **Greater brilliance than ordinary mirrors.**
2. **Shatter-resistant like automobile glass.**
3. **Hermetically sealed reflecting medium, unaffected by moisture, temperature, corrosion and hard use.**
4. **Available in DOUBLE or Single-faced, sheet or plate, in the SAME THICKNESS.**

Through Safetee's special laminated construction (patent applied for), these beautiful mirrors are many times as strong and can be several times as THIN as ordinary mirrors. The result is unusual brilliance of image, "feather" weight and high resistance to shocks and cracking. The "silvered" surface—only a fraction of an inch away from the FIRST surface of glass—is SEALED between glass and plastic and is unaffected by salt air or tropical climate. Single or double-faced mirrors are available in the same thickness, beginning at one tenth of an inch (.100").

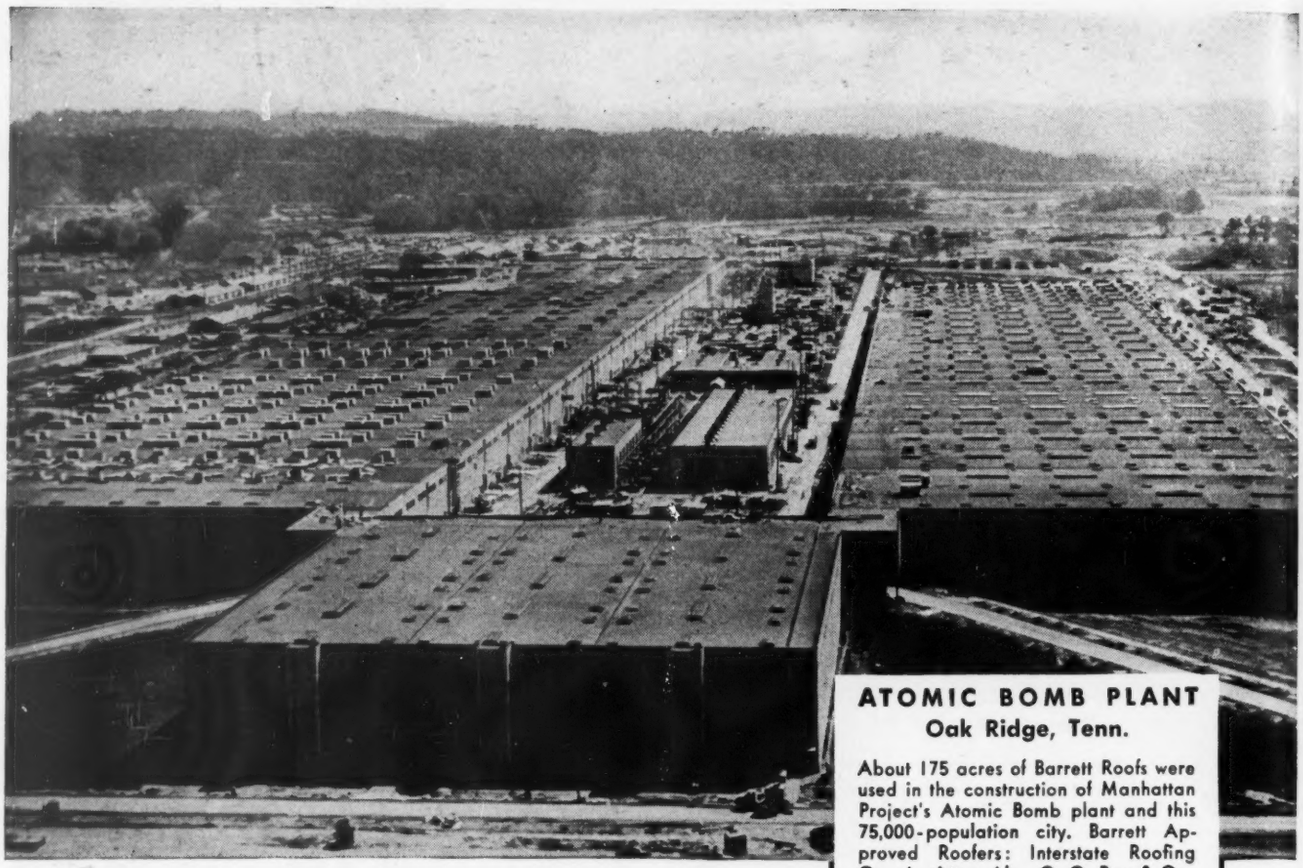
Here is your TOP VALUE in quality mirrors—for handbag or boudoir, automobiles, public carriers, gift boxes, shaving sets, picture frames, wall mirrors, furniture, etc. Resilvering is eliminated, as SAFETEE MIRRORS are permanently sealed and the image remains sharp and brilliant.

★ ★ ★

Full particulars on sizes and prices sent promptly on request.

SAFETEE GLASS COMPANY

PHILADELPHIA 44, PA.



ATOMIC BOMB PLANT
Oak Ridge, Tenn.

About 175 acres of Barrett Roofs were used in the construction of Manhattan Project's Atomic Bomb plant and this 75,000-population city. Barrett Approved Roofers: Interstate Roofing Co., Anniston, Ala., G. G. Ray & Co., Charlotte, N. C., and Tennessee Roofing Co., Knoxville, Tenn.

IMPORTANT AT IMPORTANT PLACES

. . . 7,620,000 sq. ft. of BARRETT ROOFS!

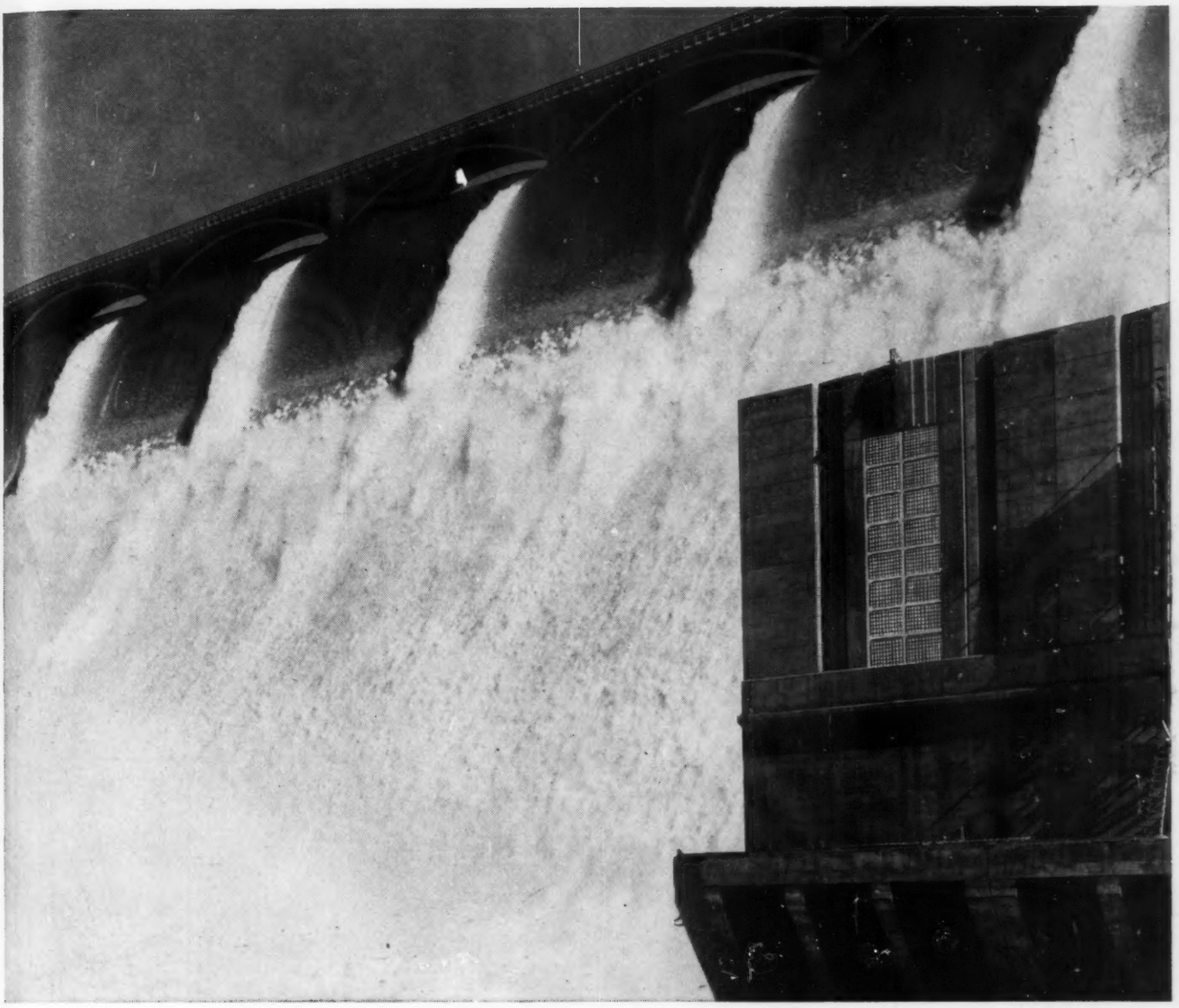
NEVER has the need for dependable roof protection been more clearly highlighted than in the construction and operation of the U. S. Government's Manhattan Project, at the Clinton Engineer Works, Oak Ridge, Tenn. For here, under direction of the War Department, the united efforts of science and industry culminated in the atomic bomb, the most potent military weapon and greatest scientific achievement in history.

In the vital race against time and the Axis, no delays or interruptions in production could be tolerated. Plant and equipment had to operate at complete efficiency *all of the time.*

Barrett is proud to have had a not unimportant part in this mammoth project. The 7,620,000 sq. ft. of Barrett Roofs applied at Oak Ridge constitutes one of the largest single orders for roofing materials in the history of the industry. It included 4,500,000 sq. ft. of Barrett Coal-tar Pitch and Felt built-up roofs, and 3,120,000 sq. ft. of Barrett Dublecote Shingles and other prepared roofings used principally for workers' homes, schools and stores.

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y.
2800 So. Sacramento Ave. Chicago 23, Ill. — Birmingham Alabama
In Canada: The Barrett Company, Ltd. 5551 St. Hubert Street, Montreal, Que.

Barrett



PICTURE OF THE GRAND COULEE DAM, COULEE DAM, WASH. Note the panels of Insulux Glass Block.

WATCH THE FLOW TO INSULUX

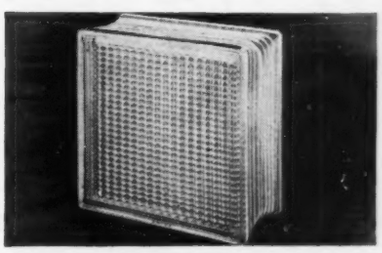
ARCHITECTS are making full use of Insulux Glass Block—in homes, offices, factories, schools and public buildings.

And—*rightly so!*

Panels of Insulux transmit and diffuse light far better than ordinary windows yet provide privacy along with light.

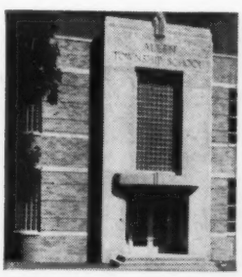
Furthermore—panels of Insulux cut down sound transmission; lock out dust and dirt, and reduce materially the cost of heating and air conditioning.

Panels of Insulux can be used to brighten dark corners and to flood any building with sunshine and light.



Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials cannot do.

IN FACTORIES — Panels of Insulux help solve problems of light, temperature, humidity and dust control.



IN SCHOOLS— Panels of Insulux flood classrooms and corridors with softly-diffused natural daylight.

IN HOMES—Panels of Insulux bring sunlight in and yet provide privacy along with light.

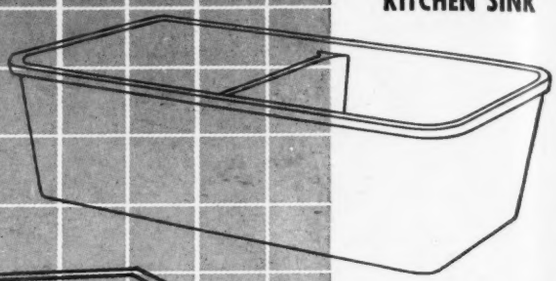
OWENS-ILLINOIS

INSULUX

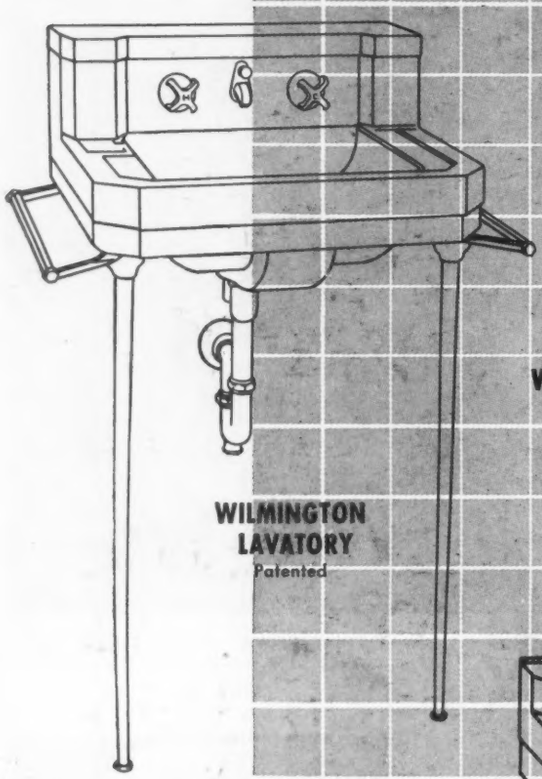
GLASS BLOCK

For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. B-48, Owens-Illinois Glass Co., Toledo 1, Ohio.

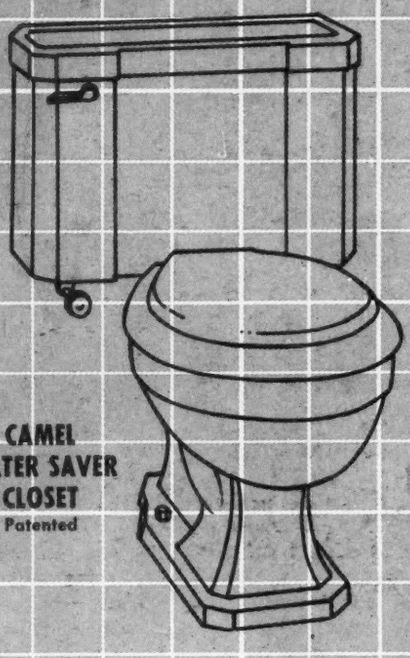
Vitreous China is better...



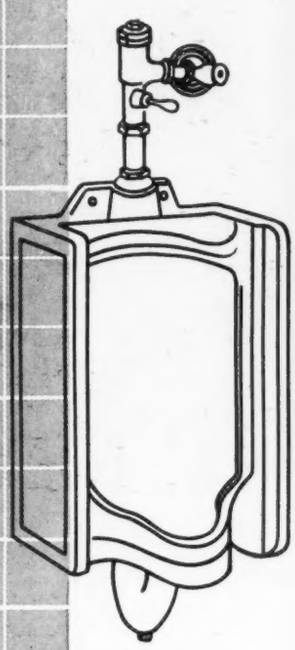
2-COMPARTMENT KITCHEN SINK



WILMINGTON LAVATORY
Patented

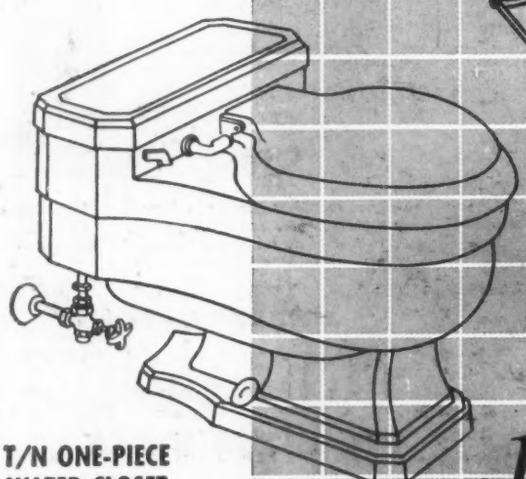


CAMEL WATER SAVER CLOSET
Patented



WALL HUNG URINAL

COSMETTE LAVATORY
Patented



T/N ONE-PIECE WATER CLOSET
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Especially when it's Case!

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"PLUG-IN" POWER

TO BRING MACHINE ARRANGEMENTS *Up to par*

. . . ONE OF 22 WAYS YOUR

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CAN HELP YOU MODERNIZE *Electrically*

Unhandy and inaccessible power circuits make changes in machine arrangements difficult and expensive. They place an added handicap in the way of changing plant layouts to meet the standards of efficiency established by new and modern war plants.

A Westinghouse Bus Duct system makes "plug-in" power available *where you need it*—makes machine arrangement completely flexible to meet changing production requirements. Outlets every 12 inches permit taking off power through circuit breaker or fused plug-in units.

Westinghouse Bus Duct is just one more example of the completeness of the help your Westinghouse Distributor can give you in bringing your plant up to par electrically. Call on him for help in making a complete electrical checkup—he can tell you what's new about a lot of other things electrical and can give you the benefit of his experience with the electrical problems of many other plants. J-60597

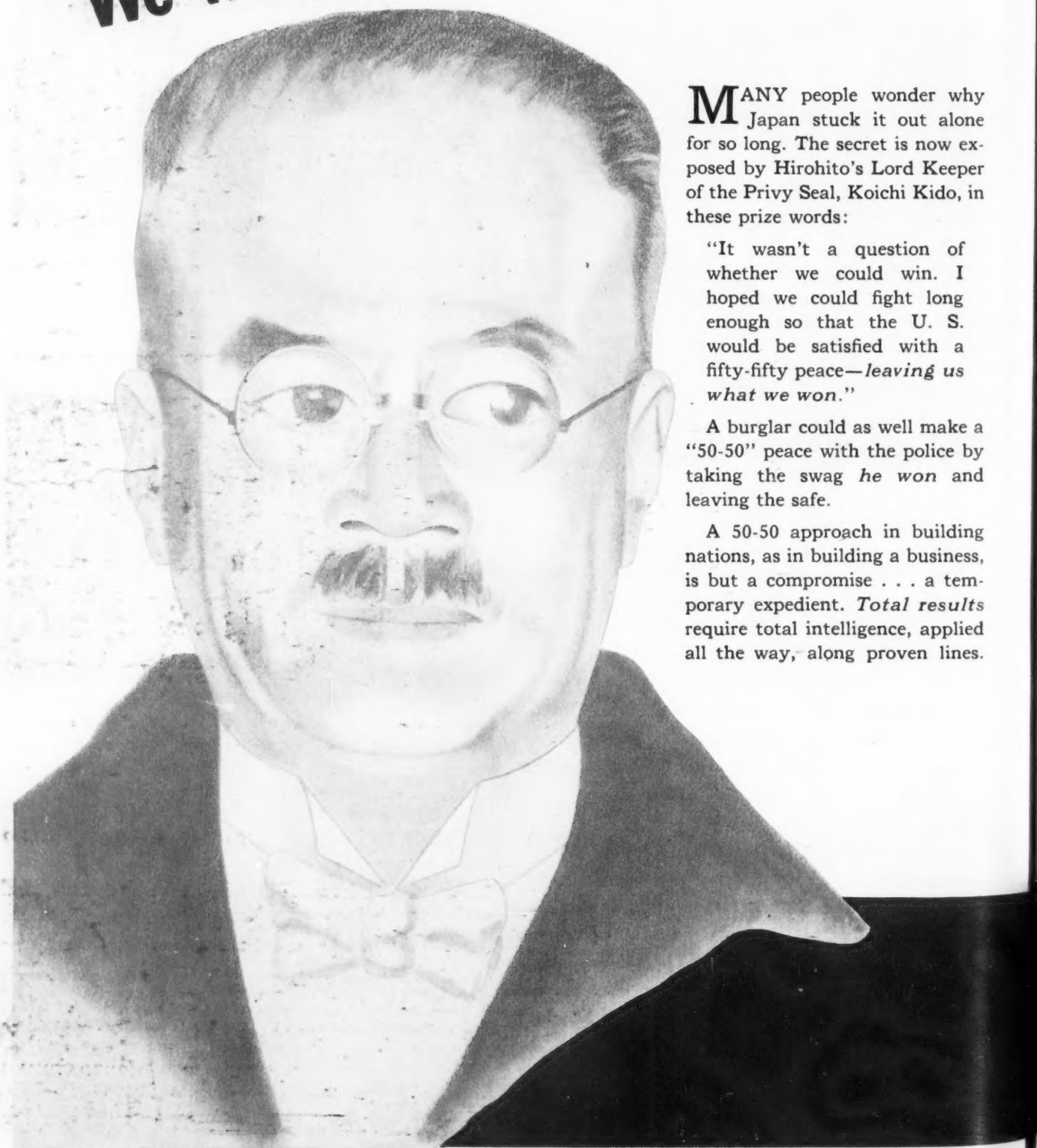
21 OTHER WAYS your Westinghouse Distributor can help you in planning electrical modernization, whether for a single department or your entire plant, are suggested in this new book. It provides a valuable check list on modern electrical practice . . . from incoming electrical power to methods of utilization and control. Ask your Westinghouse Distributor today for a copy of B-3476, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

then he said to himself:

"We want a 50-50 Peace on Earth"



MANY people wonder why Japan stuck it out alone for so long. The secret is now exposed by Hirohito's Lord Keeper of the Privy Seal, Koichi Kido, in these prize words:

> "It wasn't a question of whether we could win. I hoped we could fight long enough so that the U. S. would be satisfied with a fifty-fifty peace—*leaving us what we won.*"

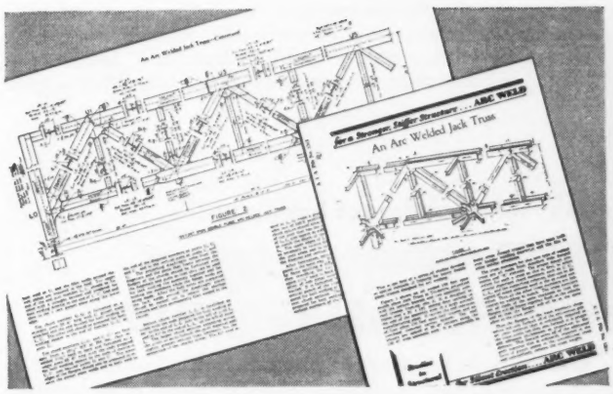
A burglar could as well make a "50-50" peace with the police by taking the swag *he won* and leaving the safe.

A 50-50 approach in building nations, as in building a business, is but a compromise . . . a temporary expedient. *Total results* require total intelligence, applied all the way, along proven lines.

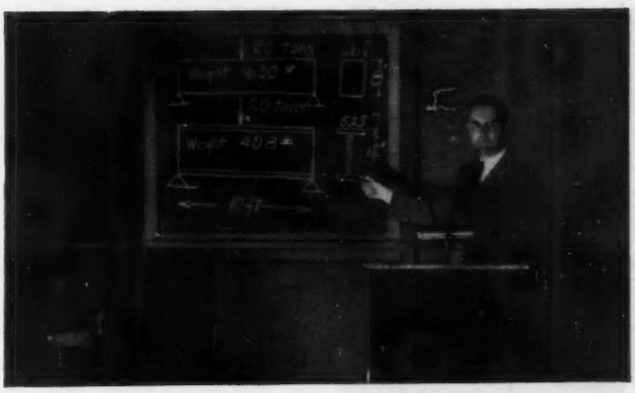
"50-50" . . . he hoped for

LOOK, KIDO, how engineers have access to learning for *total results* with Arc Welding:

NO COMPROMISE HERE



STRUCTURAL STUDIES. These plates provide original, authoritative information on structural welded design . . . discussing one element at a time. The present series features the design of a 150 ft. jack truss. Free on request. Ask for S.S.A.W. Plates 100 and 101, using your business letterhead.



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TO HELP SOLVE YOUR WELDING PROBLEMS. The Lincoln Engineer located nearby is trained in all phases of Arc Welding application. His wide experience can help you design and produce better products at lower cost. No obligation.

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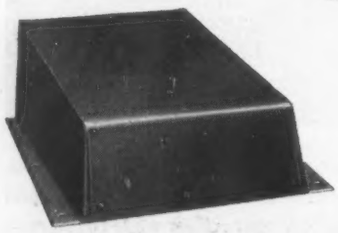
ARC WELDING

CONCRETE JOIST CONSTRUCTION

Preferred 2 to 1

Ceco never guesses. We have always known concrete joist construction had definite advantages, but we wanted to find out what builders everywhere thought. So we employed independent investigators on a nationwide census to get the whole story. The result was surprising even to us. Architects — contractors — engineers — all across America—those who know building best prefer concrete joist construction two to one. Here are their reasons:

1. Lower cost construction
2. Speeds up building
3. Provides rigid, strong, permanent, soundproof buildings
4. Assures fire-resistive construction

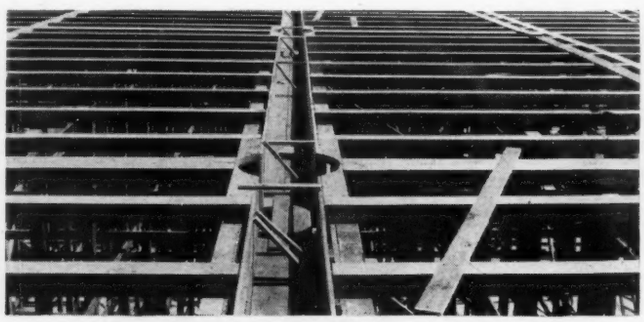


22 OFFICES TO SERVE YOU

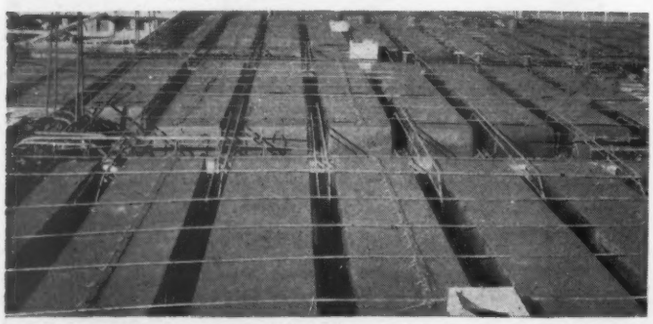
Wherever you are in the United States, there's a Ceco office strategically located to serve you. That means Ceco Meyer Steelforms for concrete joist construction are quickly available with fast delivery from the closest warehouse. Just write Ceco at the address below—we will put you in touch with your regional Ceco service headquarters.

← *Typical Meyer Steelform shown at left.*

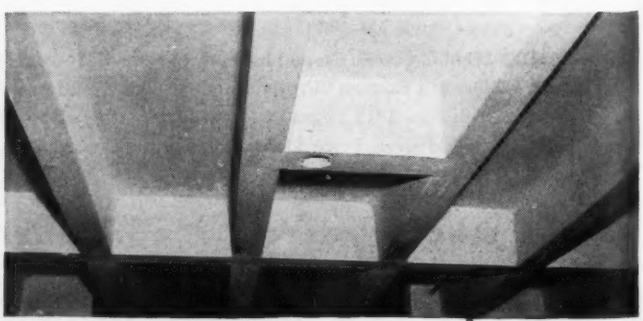
Ceco engineers in 22 offices are always ready to help you in the preparation of designs and estimates—to help you cut costs and save time. Feel free to call on the Ceco organization for service on your jobs.



Simple open wood centering is all that is required in Meyer Steelform construction. The centering may be re-used from one floor to another, as can Meyer Steelforms. This eliminates extra lumber costs, saves time.



Above is a Ceco supervised job showing how Meyer Steelforms are correctly placed to eliminate leakage of concrete and insure accurate execution of structural design. Ceco experts supervise placing of Steelforms.



Fire-resistive construction shown in a close-up view. Notice the finished character of ceiling joists built with Meyer Steelforms. Concrete joists can be left exposed or a flat ceiling can be attached.

30 YEARS OF EXPERIENCE IN REINFORCED CONCRETE!

CECO STEEL PRODUCTS CORPORATION

Concrete Engineering Division—5701 W. 26th St., Chicago, Ill.

MANUFACTURING DIVISION, SHEET STEEL AND WIRE DIVISION, HIGHWAY PRODUCTS DIVISION

ENGINEERING MAKES THE BIG DIFFERENCE IN CECO CONSTRUCTION PRODUCTS

Out of the Ruins of Coventry

...an EFFICIENT INDUSTRIAL PLANT

BUSDUCT system makes war plant suitable for speedy conversion.

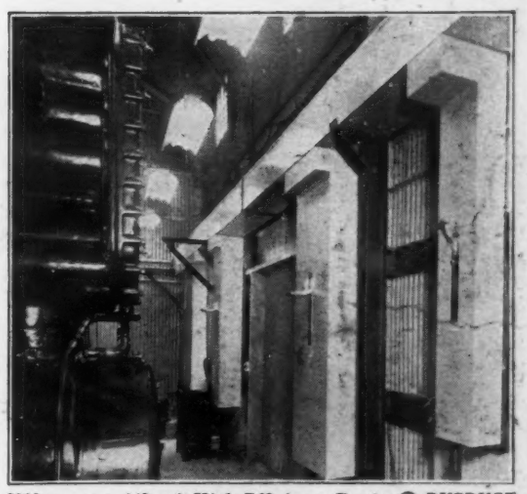
Here is a story that starts with a bombing raid on the English town of Coventry. In the merciless attacks that twisted schools, churches and industrial buildings into heaps of rubble, a vital shell producing plant was seriously damaged.

Much of the plant's equipment was shipped to an American city where a medium sized building was hastily built to produce shells of special size.

Now the plant is quiet, its occupant ready to resume the production of agricultural equipment. And here's the important part, the big point we want to illustrate:

- The removal of unwanted machinery
- The addition of new equipment
- The rearrangement of present machines

can be accomplished economically, speedily, and conveniently because Frank Adam BUSDUCT makes adequate power instantly available over every foot of the production area.



3000 ampere, 440 volt High Efficiency Feeder FA BUSDUCT system with 400 amp., 600 amp., and three 800 amp. FA SHUTLBRAK Tap-off switches.

If you are planning a new building, rearranging your plant layout, or converting to peacetime production, it's almost certain that you could profitably use Frank Adam BUSDUCT. Small plants, as well as large ones can save on equipment and operating expense with this modern method of power distribution.

Write for the name of our nearest Representative — he has an interesting story to tell you.

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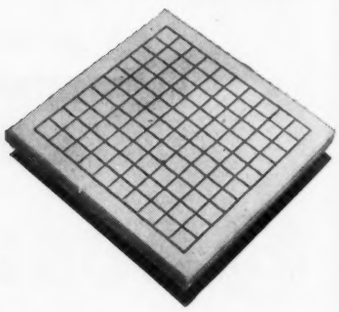
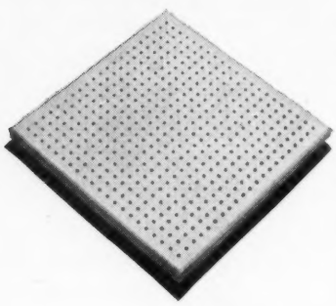


or

FIBRETONE



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provides flexibility!

Building interiors can be *completely flexible* to meet changing needs! The J-M Unit System consists of movable Transite Walls, efficient Acoustical Ceilings, and colorful Asphalt Tile Floors . . . all under *one* specification, *one* manufacturer's responsibility. Write for the complete details!

Two additions to the Johns-Manville Acoustical family now bring the cost of sound control within the reach of almost every client.

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A unique feature of Fibretex is the pleasing pattern produced by its grooved squares. Its companion product, Fibretone, is distinguished by the more familiar perforated pattern. Either one makes an attractive-looking ceiling or wall that can be left with original factory finish, or painted as often as desired with no loss in efficiency. (An example of Fibretex in a school corridor is illustrated above.)

Whatever your problem in sound control may be, Johns-Manville is able to provide a solution that is scientifically correct. Write Johns-Manville, 22 E. 40th St., New York 16, N. Y.

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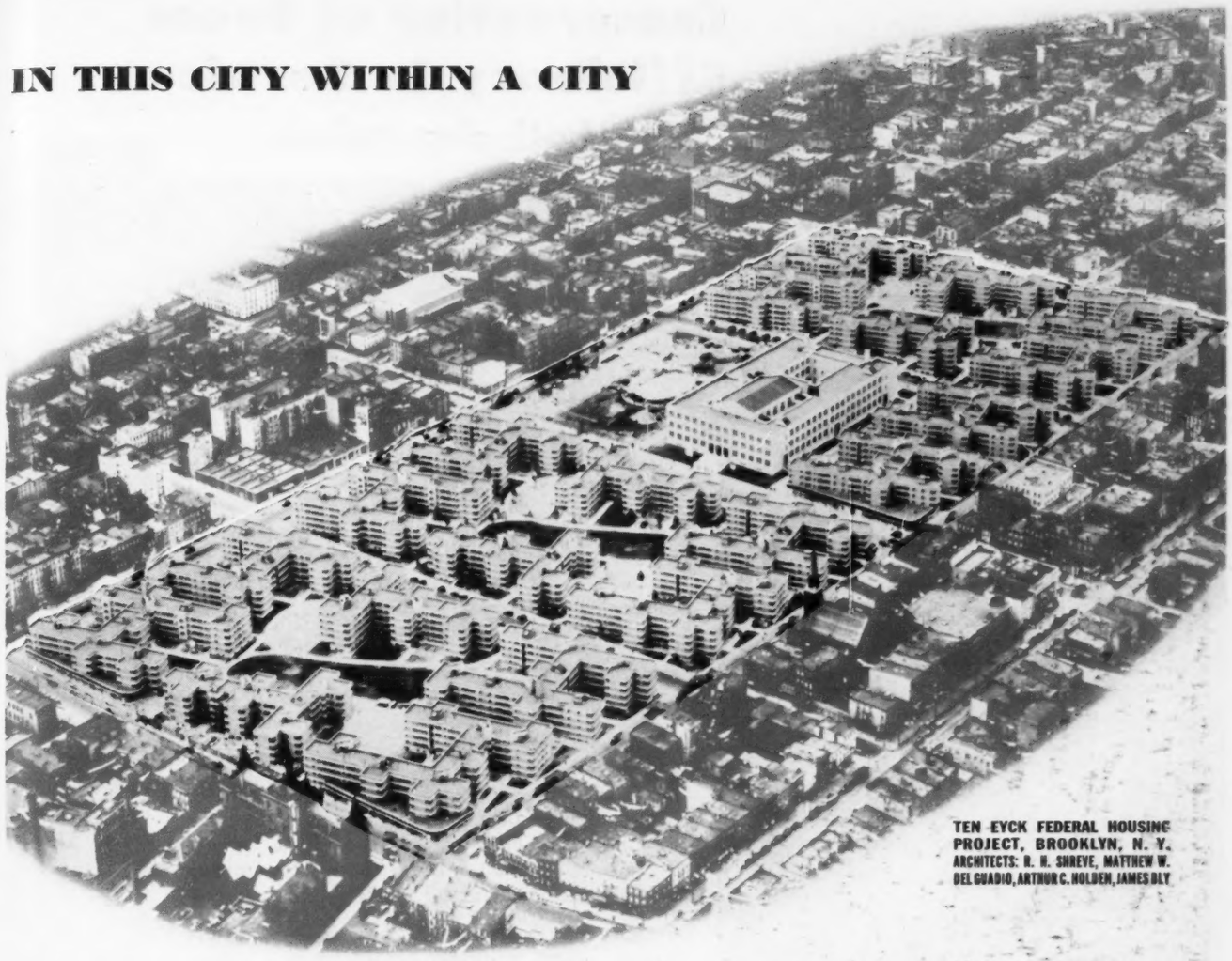
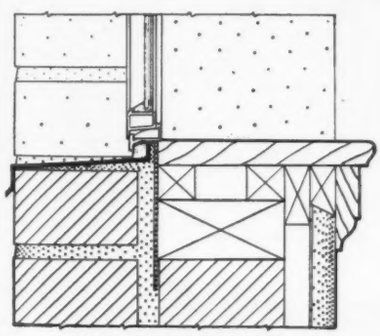
IN THIS CITY WITHIN A CITY



TEN EYCK FEDERAL HOUSING PROJECT, BROOKLYN, N. Y.
ARCHITECTS: R. H. SHREVE, MATTHEW W. DEL GUADIO, ARTHUR C. HOLDEN, JAMES DLY



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One of many standard Alcoa sills

Section Number	A	B	C	D	E	F	Wt. Per Foot
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18054	4	$3\frac{1}{2}$	$\frac{1}{8}$	$1\frac{19}{32}$	$\frac{7}{32}$	$\frac{3}{16}$	.768
16754	$4\frac{1}{2}$	4	$\frac{1}{8}$	$1\frac{5}{8}$	$\frac{1}{4}$	$\frac{3}{16}$	.844
18971	5	$4\frac{1}{2}$	$\frac{1}{8}$	$1\frac{21}{32}$	$\frac{9}{32}$	$\frac{3}{16}$	.919
18055	$5\frac{1}{2}$	5	$\frac{1}{8}$	$1\frac{11}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	.992
18972	6	$5\frac{1}{2}$	$\frac{1}{8}$	$1\frac{23}{32}$	$\frac{11}{32}$	$\frac{3}{16}$	1.067

every window has an Alcoa Aluminum Sill

Easy to install, neat in appearance, low on upkeep—good reasons for using Alcoa Aluminum window sill on this and many other projects before the war. Convincing arguments for continuing their use as they again become available.

Their light weight makes handling easy. One man can set Alcoa sills. Sections are thin, permitting sills to be extended into the masonry, making tight joints. Aluminum needs no protective painting to safeguard it against the weather.

As aluminum is released for civilian uses, sills will again be stocked in convenient warehouses around the country. Plan on including Alcoa Aluminum sills in the residences and buildings you are now planning. Send for your copy of the booklet "Sills and Copings of Alcoa Aluminum". ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN ALUMINUM

ALCOA ALUMINUM

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Efficiency in Service
both depend on

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The installation of STREAMLINE Copper Pipe and Solder Type Fittings under normal water conditions assures many, many years of trouble-free, efficient service at low cost. Copper and bronze do not rust. STREAMLINE Pipe is made from pure copper. STREAMLINE Fittings are manufactured in copper and bronze.

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Copper Pipe loses less heat by radiation than ferrous piping, particularly if the surface is kept polished, although copper itself is a very rapid conductor of heat. Therefore, it naturally follows that there is considerably less heat loss when the heated element, water or steam, is being conveyed from the point of generation to the points of distribution through copper pipe of uniform, unclogged, internal conducting area.

Plan on specifying and installing STREAMLINE Copper Pipe for your postwar construction—or for replacement.

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PIPE AND FITTINGS DIVISION
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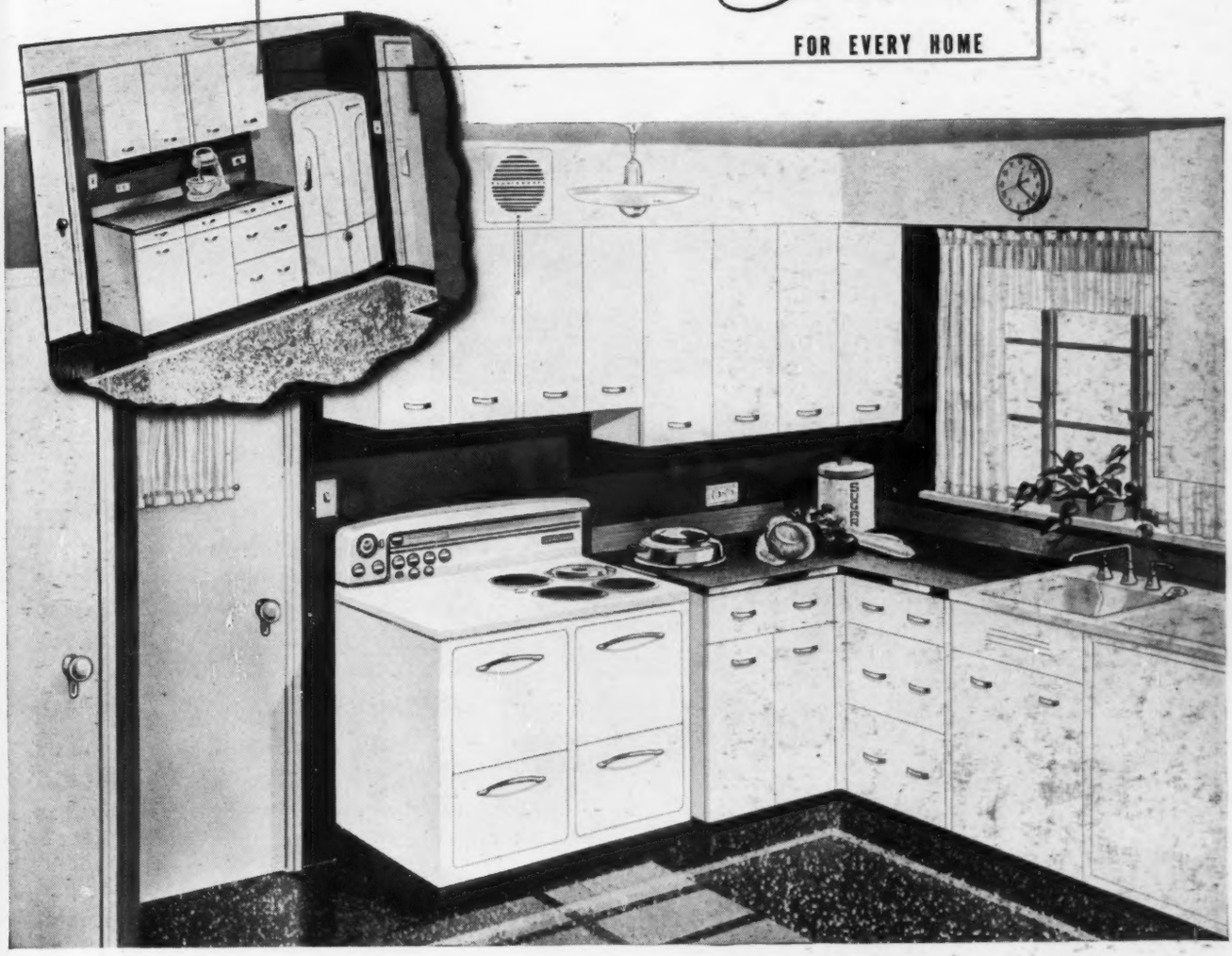
THERE'S A DEGREE OF *Electrical Living*

FOR EVERY HOME



Here's an ELECTRICAL LIVING Kitchen for the "BUDGET" Home

There is a degree of Electrical Living for every price class of home . . . "Thrift", "Budget", "Ideal" and "De luxe".

For a "Budget" home, this smart kitchen design incorporates essential electrical features (range, refrigerator and dishwasher) together with expertly-planned work centers, modern lighting, electrical outlets placed for maximum convenience, and progressive lighting switches. Designs for kitchens with the other degrees of Electrical Living are available.

The Westinghouse Home Wiring Handbook will help you plan and specify an efficient wiring system for Electrical Living for the entire home. This Handbook is helping thousands of architects and builders to select the proper degree of Electrical Living and to provide necessary wiring facilities. The book has 120 pages, dozens of charts, diagrams and tables, suggested specifications, etc. Costs only $1.00. Send for your copy to Westinghouse Electric Corporation, Industrial Relations Dept., 306 Fourth Avenue, Pittsburgh 30, Pa.

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Better Homes Department, in addition to its consulting service, offers you the following FREE books: Electrical Living in 194X—Professional Edition; Manual of Better Home Wiring; and Better Living Means Electrical Living.

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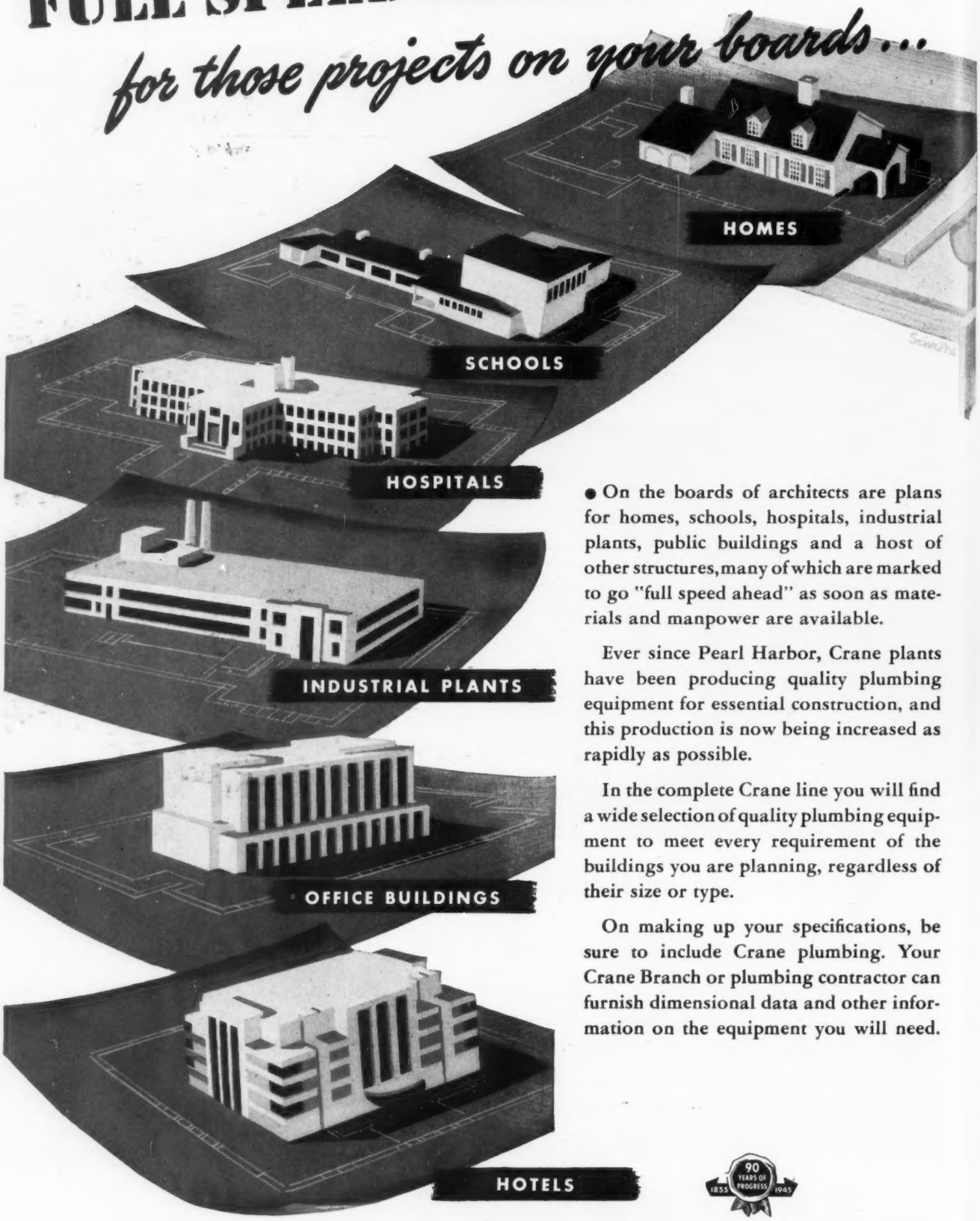
FULL SPEED AHEAD ...

for those projects on your boards...



● On the boards of architects are plans for homes, schools, hospitals, industrial plants, public buildings and a host of other structures, many of which are marked to go "full speed ahead" as soon as materials and manpower are available.

Ever since Pearl Harbor, Crane plants have been producing quality plumbing equipment for essential construction, and this production is now being increased as rapidly as possible.

In the complete Crane line you will find a wide selection of quality plumbing equipment to meet every requirement of the buildings you are planning, regardless of their size or type.

On making up your specifications, be sure to include Crane plumbing. Your Crane Branch or plumbing contractor can furnish dimensional data and other information on the equipment you will need.

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PLUMBING • HEATING • PUMPS

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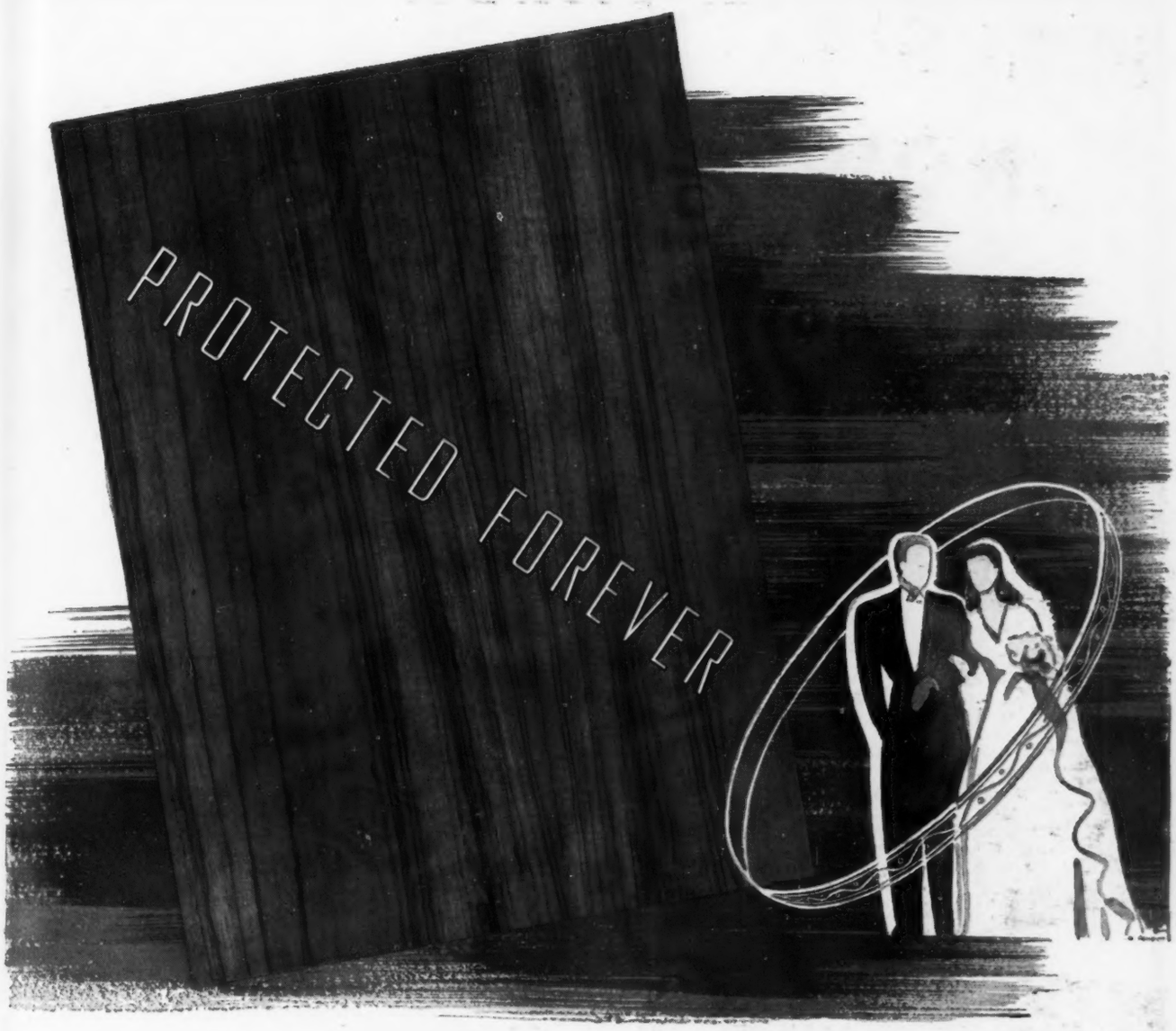

When the designer of Formica laminated plastic "Realwood" placed a clear transparent layer of plastic over a lamination of plastic impregnated genuine veneer and united them in marriage with heat and pressure it is not recorded that he actually said "I now pronounce you man and wife".

But it is a matter of record that no protecting sheet of plastic has ever divorced itself from a Formica "Realwood" wood veneer base. The oldest installations of "Realwood" have only been in use 10 years, but there is every reason to believe that the full bridal beauty of "Realwood" will be cherished and protected as long as the architect and building in which he uses it both shall live.

Formica is protected from moisture, from checking, chipping, or spotting, and from visible abrasion by ordinary wear. It comes in wood finishes, several fabric finishes, and other colors that never fade.

FORMICA

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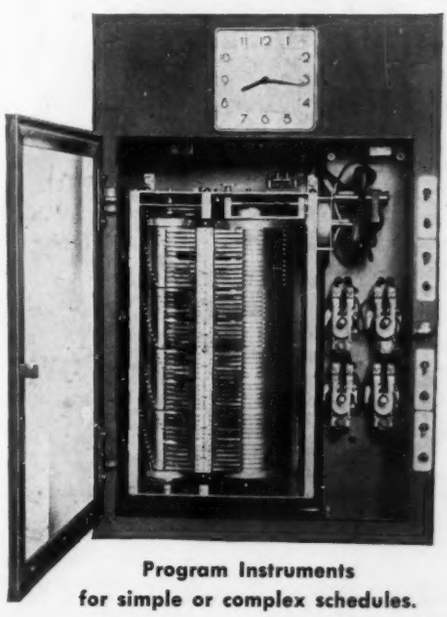
Accurate, trouble-free operation is assured by the famous Telechron self-starting movement which is automatically and dependably synchronized by alternating current. No contacts, rectifiers, relays, pendulums, keys or switches to get out of order—no central control clock to be maintained, regulated and serviced.

This adjunct to Edwards telephones, alarm and protection systems, enables you to specify complete, "all-over" signaling equipment from one source. Full information on request.

Telechron motored clocks for classrooms, corridors, etc.

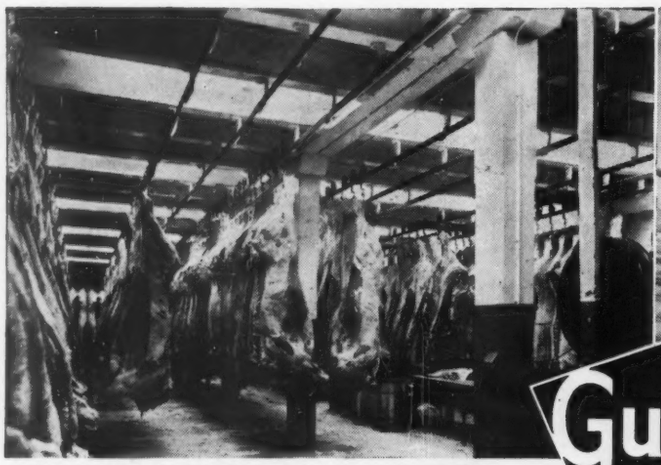


Program Instruments for simple or complex schedules.

EDWARDS *and Company*

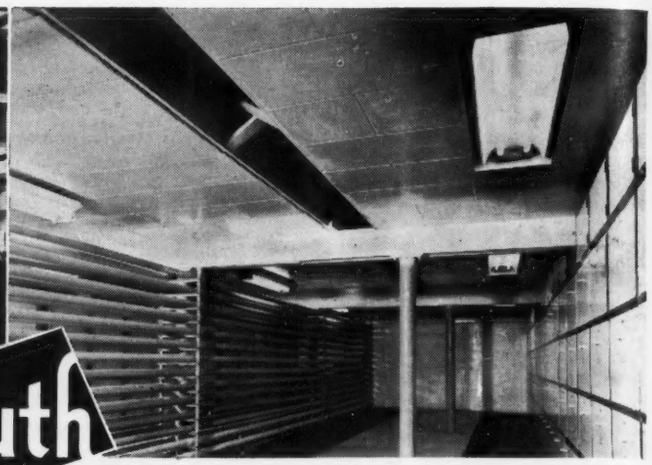
NORWALK, CONN. • IN CANADA: EDWARDS & CO., OF CANADA, LTD.

Electrical Signaling Communication and Protection for Homes, Schools, Hospitals, Offices and Industry.



35° F. TEMPERATURE

Chicago "holding-room" refrigerated to 35° F. with 80% humidity, is illuminated by Guth QUICKLITERS inset in ceiling troughs. The cool-operating QUICKLITERS add little to the refrigeration-load. Meat is graded faster, resulting in increased annual capacity of the cooler. Most interesting is the fact that beef in this cooler brings higher prices; write for details.



0° F. TEMPERATURE

Salt Lake City, Utah, installation of QUICKLITERS in a cold-storage locker plant. Thermometer at room entrance constantly shows 0° to −5° F. Notice in photo that one row of 3 fixtures is less than 3-feet above the refrigerated coils. Owner of the plant is well satisfied; none of the lamps have failed, nor hesitated to light, after 800-hours service.

Guth *Quick-Liters*
TRADE-MARK

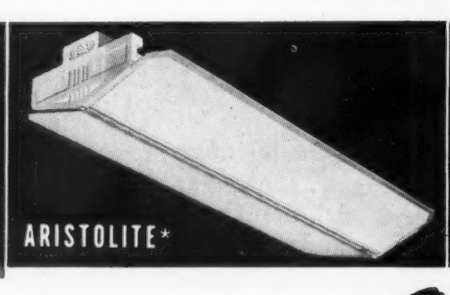
FOR

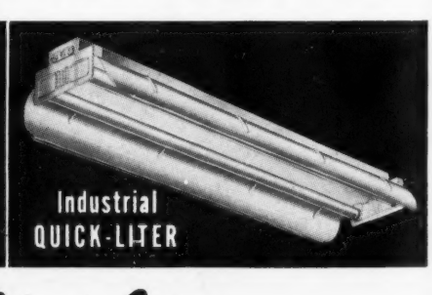
COLD-TEMPERATURE LIGHTING

COLD STORAGE LOCKERS, MEAT COOLERS, ETC.

Fluorescent lighting is now practical in refrigerated areas. Guth QUICKLITERS now in daily use, have proven their practicability. Besides affording high-quality, diffusing illumination, the use of Fluorescent in these areas adds little to the refrigeration-load due to inherent lighting efficiencies.

QUICKLITERS have other uses, too. The fact that *no Starter-Switches* are needed, is a tremendous saving in maintenance costs. Quick-starting, long lamp-life and operation at low and irregular voltages are QUICKLITER attributes. Write for further details.

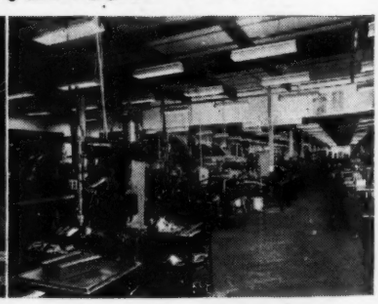




** Available with QUICK-LITER Ballasts*

Guth Quick-Liter
TRADE-MARK
NO STARTER SWITCHES
WILL OPERATE IN AN ICE BOX
The Original Starterless Fluorescent has proved itself in gruelling tests since July 1942!
LIGHTS INSTANTLY
"STOCKED" COLD CATHODE
LONG LAMP LIFE
OPERATES AT IRREGULAR OR LOW VOLTAGE

OTHER *Quick-Liter* USES



FOR OFFICES

QUICK-LITERS for offices provide exceptional maintenance and operating features. A single unit, or an entire row, "lights at the flick of a switch" When a lamp goes out there is no guessing (as with conventional equipment) as there are no Starter-Switches in the QUICK-LITER system. Installation above was engineered by Mr. R. S. Milner, of Cleveland, Ohio.

FOR INDUSTRY

Because Starter-Switches *are not* used in the QUICK-LITER circuit, a great saving is afforded by reducing maintenance costs. In factories where power lines may be overloaded, irregular or low voltage conditions are solved; QUICKLITERS do *not* "go-out" even with Voltages as low as 85 Volts. Quick-starting of QUICKLITER is advantageous in many industrial applications.

2615 WASHINGTON AVE. **THE EDWIN F. GUTH CO.** ST. LOUIS 3, MISSOURI
LEADERS IN LIGHTING SINCE 1902

Confidence

PERHAPS the first step in undertaking a new project is to insure confidence—in the idea *and* in the tools employed. No more needed tool is there than the pencil which translates ideas into working form and thence into reality.

VENUS Drawing Pencils are engineered to give you drafting perfection without failure: accurately *graded* to assure uniformity in all 17 degrees . . . *strong* in performance . . . *smooth* and *clean* in action.

Put VENUS to the test on your drawing board. Send us a postcard or a note for two free samples. Specify degrees wanted.

VENUS *DRAWING PENCILS*

AMERICAN LEAD PENCIL COMPANY, HOBOKEN, NEW JERSEY

Thermopane

REGISTERED U. S. PATENT OFFICE

The acceptance of *Thermopane*—Libbey·Owens·Ford's transparent insulating unit—has been tremendous! It is timely to emphasize the following:

1. *Thermopane* is a registered trade mark of the Libbey·Owens·Ford Glass Company;
2. Only Libbey·Owens·Ford makes *Thermopane*;
3. Only Libbey·Owens·Ford can call a transparent insulating unit *Thermopane*;
4. Only *Thermopane* has the Bondermetic Seal which bonds the panes of glass into one unit to prevent dirt and moisture from entering the dry air space;
5. The name "*Thermopane*" can and should be used when referring to the L·O·F product;
6. The word "*Thermopane*" should never be used when referring to any other brand of multiple-glazing construction.

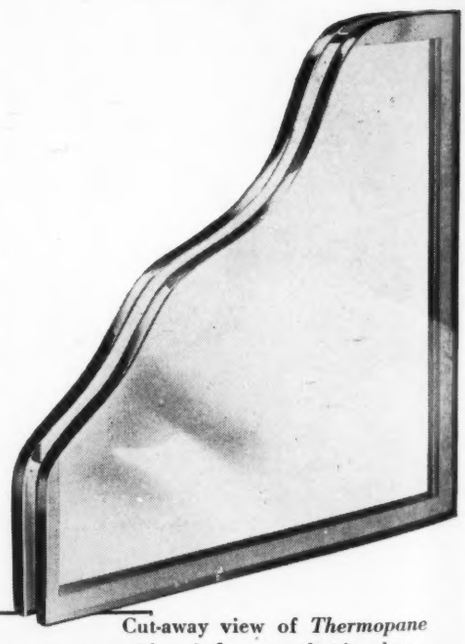
We make these statements because the function of a trade mark is to unequivocally identify the manufacturer of a product . . . and to eliminate the possibility of confusion in the mind of the public concerning the producer of a specified product . . . and to assure that the customer gets what he orders.

We are sure that architects, contractors and others who are familiar with the superiority and advantages of *Thermopane* will welcome these statements . . . will refrain from using our trade mark in referring to any construction or product not made by the Libbey·Owens·Ford Glass Company.

We believe that our readers will understand L·O·F's pride in *Thermopane* and our sincere desire to have *Thermopane* continue to enjoy its individuality.

©1945

Thermopane is also available in Canada.



Cut-away view of *Thermopane* —the windowpane that insulates.

L O F **LIBBEY·OWENS·FORD**
a Great Name in **GLASS**

LIBBEY · OWENS · FORD GLASS COMPANY . . . TOLEDO 3, OHIO

FIRE can't be scared away

SHEETROCK *Fireproof* WALL *and* CEILING PANELS

No one would expect a scarecrow to fight fire. Yet, many of the 420,000 dwellings which fire attacks every year have only "scarecrow" protection. No wonder progressive architects and builders are constantly seeking safer building materials and methods.

One safer building material is Sheetrock*, the fireproof wallboard. Time after time, these big panels of gypsum have proved their worth under actual fire conditions. They kept the flame in check till help could arrive.

Plan to use Sheetrock on your most exacting jobs. You can decorate it by any method . . . you can have smooth surfaces, curved surfaces or attractive paneled effects.

Or, if you want a wood-grained finish, choose Sheetrock in faithful reproductions of knotty pine, bleached mahogany or walnut. This versatility combined with modern protection is the answer to why Sheetrock has been used on more walls and ceilings than any other gypsum wallboard in the world.

*Reg. T. M.

United States Gypsum

For Building • For Industry

Gypsum · Lime · Steel · Insulation · Roofing · Paint

25% Greater Production in Air Conditioned Offices
A Forward Step to Increased Shoe Sales
A Valuable Investment in the Modern Factory Office
A Boon to Apparel Shops
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Puts a New Zest in Beauty Salons
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Modern Banks Require Air Conditioning, Too!
CHRYSLER AIRTEMP

For Your Files on Air Conditioning

Chrysler Airtemp has prepared a valuable set of specially drawn isometrics for architects' reference file on air conditioning. These drawings show specific applications of "packaged" air conditioners in a wide variety of carefully chosen business establishments. The installation drawings have been reprinted and bound for your convenience. The book also contains practical information about the time-tested, easily-installed Chrysler Airtemp "Packaged" Air Conditioners.

You can obtain a complete set of drawings without cost or obligation by filling out and mailing the coupon.

Invest in Your Future—Buy Victory Bonds—"Listen to the music of Andre Kostelanetz Thursdays, C.B.S., 9.00 p.m., E.S.T."

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HEATING • COOLING • REFRIGERATION

CHRYSLER CORPORATION
AIRTEMP DIVISION, 1119 LEO STREET
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GENTLEMEN: Please send me without cost or obligation a set of typical installations of "Packaged" Air Conditioners.

NAME_____

ADDRESS_____

CITY, ZONE, STATE_____

☐ ARCHITECT ☐ ENGINEER ☐ CONTRACTOR OR BUILDER

Precision-Made!

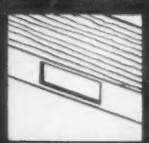
DOUGLAS FIR DOORS

FACTRI-FIT

assure cleaner, more attractive installations!

SPECIFICATIONS★

FACTRI-FIT GAINING



7" from top, 11" from bottom. Standard butt on 1⅜" doors, 3½"x3½"; on 1¾" doors, 4"x4". Square corners. Center gaining for heavy construction is equi-distant between.

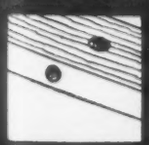
FACTRI-FIT SIZES

Doors prefit to exact net book sizes listed in U. S. Commercial Standard 73-43. Doors scuff-stripped for protection.

FACTRI-FIT GRADES

Doors are grade-marked for easy identification and specification.

FACTRI-FIT LOCK BORE



All boring to center knob 36" from bottom of door. Diameter of bore-in, 15/16"; length of bore-in, 3¾" from edge; face plate, 1" x 2¼" x 1/16", square shape, cross-bore, ⅝" diameter on 2⅜" center. These standard specifications fit virtually all nationally-distributed hardware. Other machining on special order.

PRE-FIT

Douglas Fir Doors are cut to exact net book sizes listed in U. S. Commercial Standard 73-43 . . . are scuff-stripped for protection . . . grade-marked for easy identification and correct specification. They reach you trimmed and ready to hang.

★

FACTRI-FIT

Douglas Fir Doors—now available—are not only prefit, scuff-stripped and grade-marked—but gained for hinges and bored for locks as well. All machining is done at the mill by high-speed, clean-cutting precision tools that assure a correct job every time.

PRE-PRIMING

of Douglas Fir Doors—now available—adds still another advantage to the precision steps outlined above. Pre-priming saves on-the-job finishing time, reduces moisture absorption and improves dimensional stability.

Send for Catalog showing complete line of Douglas Fir Interior Doors, Tru-Fit Entrance Doors, and new specialty items. Sent free to any point within the United States.

Douglas Fir DOORS

FIR DOOR INSTITUTE

Tacoma 2, Washington

Remember!
NATURE MAKES DOUGLAS FIR
Durable!
Durable Douglas Fir Doors are made from all-heartwood, vertical-grain, soft, old-growth Douglas Fir.

THE NATIONAL ASSOCIATION OF FIR DOOR MANUFACTURERS

STAIRS

DECORATIVE GRILLES

ENTRANCE DOORWAY

SPANDRELS

DIRECTORY

PLAIN OR ORNATE

RESIDENTIAL OR COMMERCIAL

MODERN OR TRADITIONAL

ARCHITECTURAL METALS

can be fabricated to meet any requirement

Because of their extreme versatility, architectural metals lend themselves to architects' thinking. They can be used in the way you want—for what you want. They can be shaped and fabricated to your own ideas.

As you design tomorrow's buildings—whether they be large or small, commercial or residential—consider the many ways architectural metals can be used for practical, utilitarian purposes as well as for ornamentation.

Use them to give extra strength or protection in stairs, railings, door frames, windows, and hundreds of other building items. Use them, too, in the entrance, for store fronts, marquees, grilles, and all types of exterior and interior decorations.

Architectural metals, both ferrous and non-ferrous will be available for immediate use again as soon as building restrictions are lifted. Include them in your plans now. For a Directory of Leading Architectural Metal Fabricators who are anxious to serve you, write to Dept. P-12

NATIONAL ASSOCIATION OF

ORNAMENTAL METAL MANUFACTURERS

209 CEDAR AVENUE, TAKOMA PARK, WASHINGTON 12, D. C.

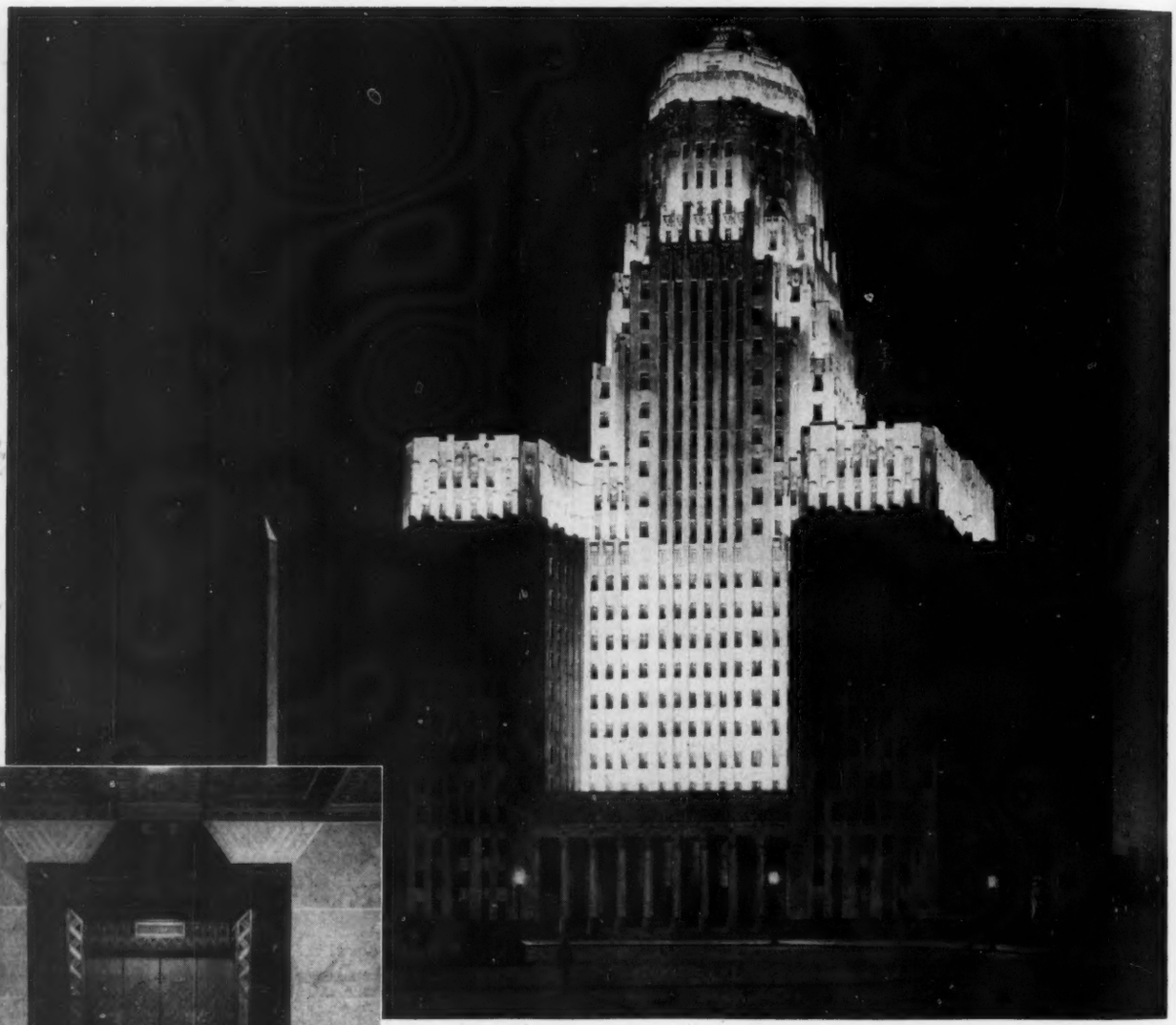
NON-FERROUS WINDOWS

FLAGPOLE BASE

STORE FRONTS AND MARQUEES

FIXTURES

HAND RAILINGS

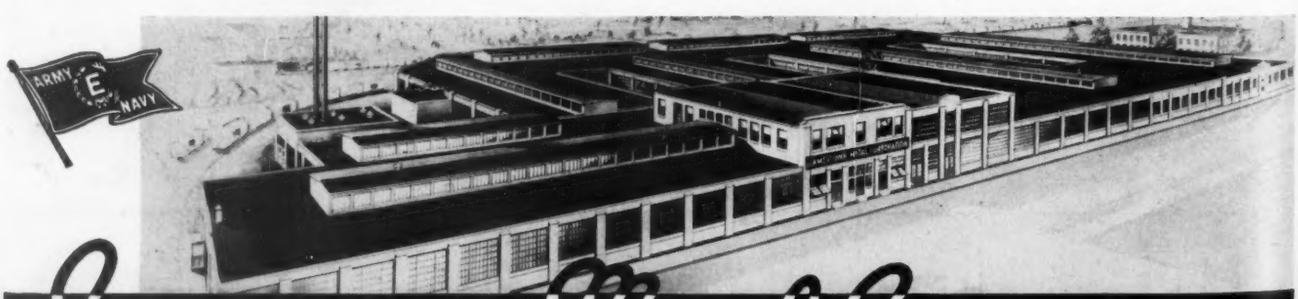


BUFFALO CITY HALL, Buffalo, N. Y.

Dietel & Wade & Sullivan, Architects
John W. Cowper Co., Gen'l Contractor

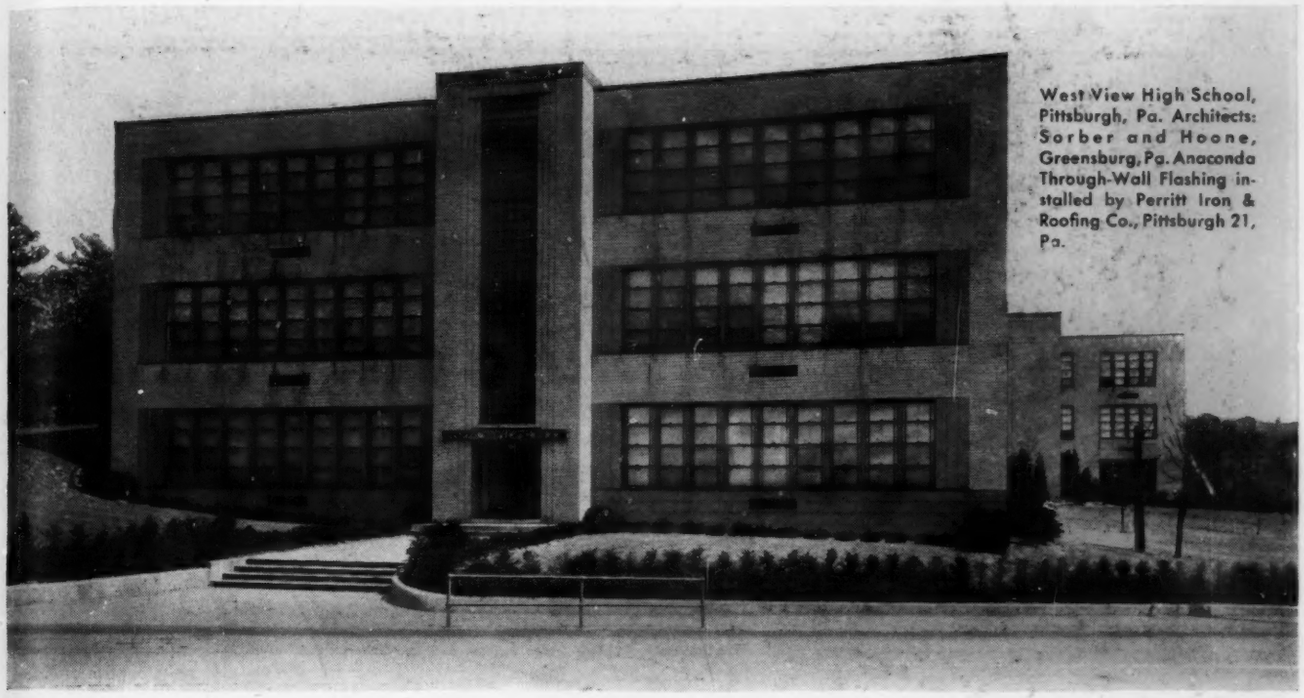
CAST BRONZE BIPARTING ELEVATOR UNITS by
JAMESTOWN METAL CORPORATION

Jamestown Metal Corporation will be happy soon to be working again with architects on plans for Hollow Metal Doors, Interior Trim, Elevator Enclosures, Office Partitions, Cold Rolled Mouldings and formed metal specialties in Steel, Aluminum and Stainless Steel.



Jamestown Metal Corporation

104 Blackstone Avenue Jamestown, N. Y.



West View High School, Pittsburgh, Pa. Architects: Sorber and Hoone, Greensburg, Pa. Anaconda Through-Wall Flashing installed by Perritt Iron & Roofing Co., Pittsburgh 21, Pa.

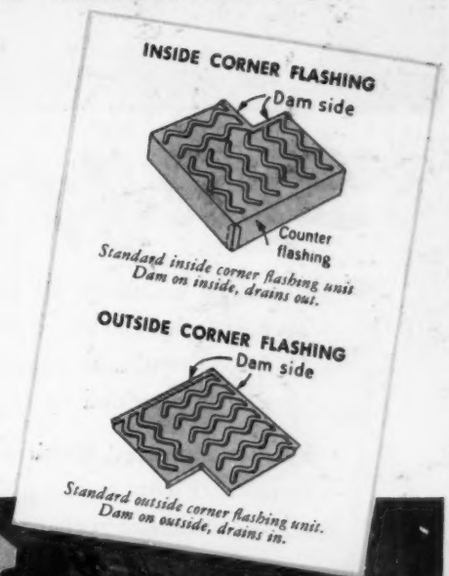
Frost and Dampness kept OUT

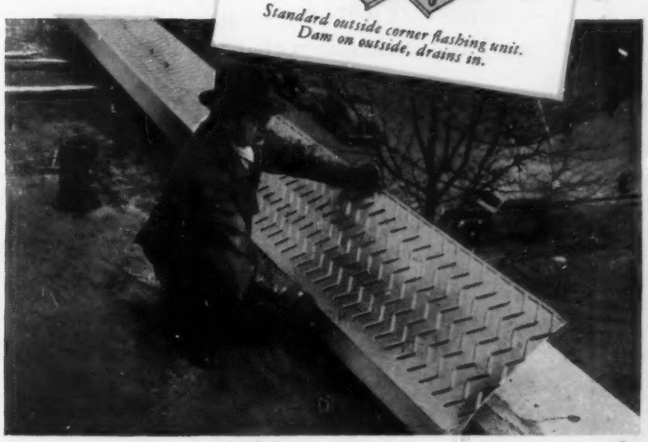
with ANACONDA THROUGH-WALL FLASHING . . .

THIS MODERN Pittsburgh school building is well protected from damage caused by seepage of moisture through brick and masonry. It is equipped with Anaconda Through-Wall Flashing . . . *the flashing that drains itself dry.*

The special design of Anaconda Through-Wall Flashing offers other marked advantages: The zig-zag ridges provide a strong bond with the mortar and prevent lateral movement in any direction. The flat selvage permits neat, sharp bends. And in addition, adjacent lengths are easily locked endwise merely by nesting one or two of the zig-zag ridges.

Anaconda Through-Wall Flashing is a patented product made only by the American Brass Company. For additional information write for Publication C-28, or refer to Sweet's Catalog.





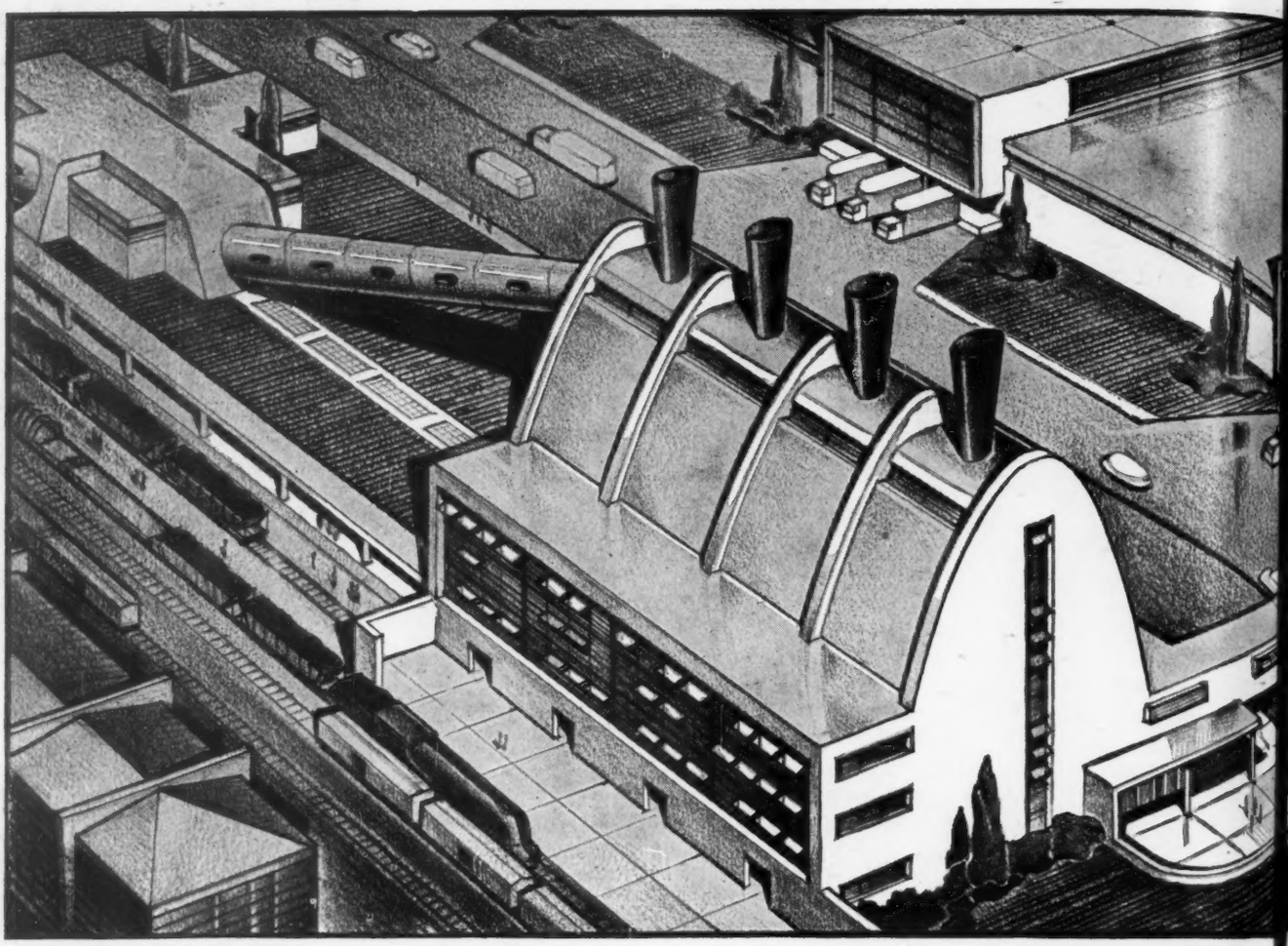
Anaconda Through-Wall Flashing will be furnished in standard types for 8" and 12" walls.

Buy Victory Bonds . . . Help assure World Peace

THE AMERICAN BRASS COMPANY
General Offices: Waterbury 88, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: ANACONDA AMERICAN BRASS LTD.,
New Toronto, Ont.

ANACONDA

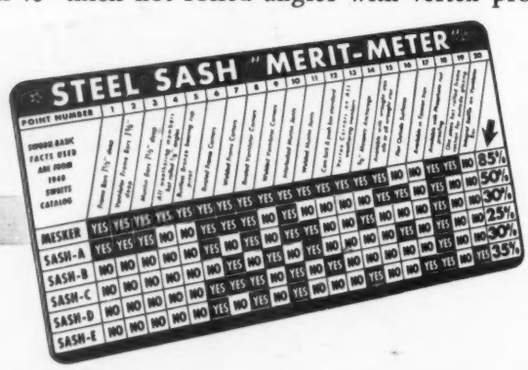
Anaconda Copper



Specify MESKER HEAVY DUTY STEEL

Industrial buildings all over America are testimonials to the quality and functional supremacy of Mesker Industrial Windows. The superior strength of these *heavy duty* steel windows is due to their 1⅝" deep ventilator bars, interlocked muntin bars and unexcelled craftsmanship throughout. Tighter closing is provided by cam locks with push bars.

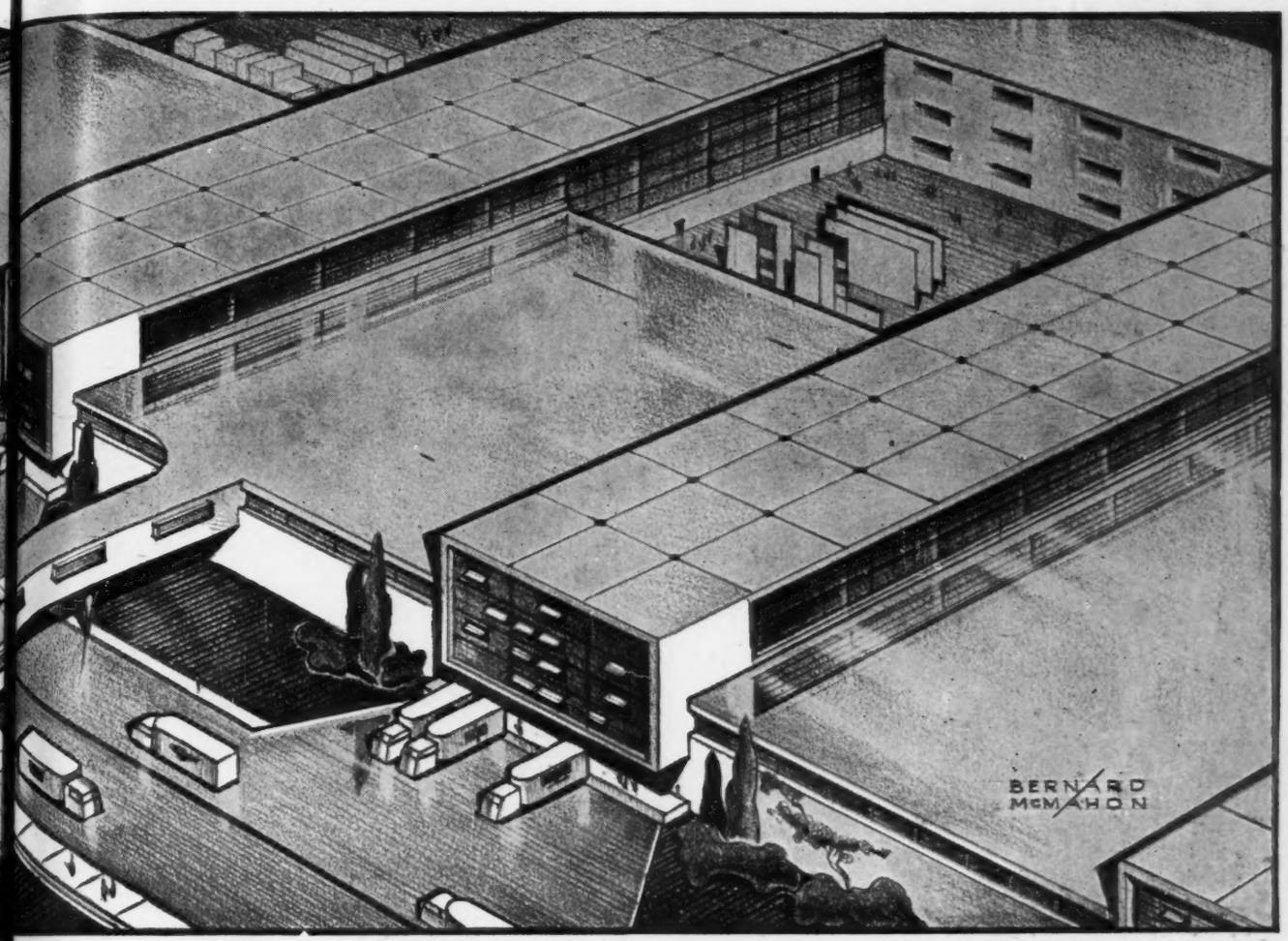
Mesker Industrial Windows also come equipped with the famous patented "cup pivot" which prevents ventilators from sagging. Other special features insuring more weathertightness are weathering bars, all ⅛" thick hot rolled angles with vertex profiles. Full ¼" weather contact!



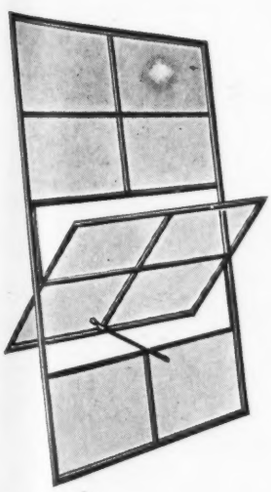
These windows can be supplied with rust resisting wrought iron sill members. If desired, they can also be furnished with outside putty glazing—an additional safeguard against rusting and re-painting, a means of reducing maintenance costs.

Get all these superiorities of quality, construction and function by specifying Mesker Heavy Duty Steel Windows for your industrial buildings.

• *Shown above is the Mesker Merit Meter, a point by point comparison of the leading brands of steel windows. The Merit Meter has time and time again proved the "Quality Supremacy" of Mesker Steel Windows.*



WINDOWS FOR INDUSTRIAL BUILDINGS



Mesker Windows for Industrial Buildings

Mesker Heavy Duty Steel Windows for Industrial Buildings provide maximum daylight . . . can easily be combined into veritable window walls. Easily operated by remote control, they never stick or swell . . . provide better, draftless ventilation. Also economical, they can be easily removed and reused if factory or building is remodeled.

Mesker

STEEL WINDOWS

MESKER BROTHERS • 427 SOUTH 7th STREET (2) SAINT LOUIS

THE SMALLER *Windowall*

Triple installation of Andersen Complete Wood Casement Window Units
.....function as a window, opening up a view, letting in fresh air
.....function as a wall, shielding the home from bitter weather.

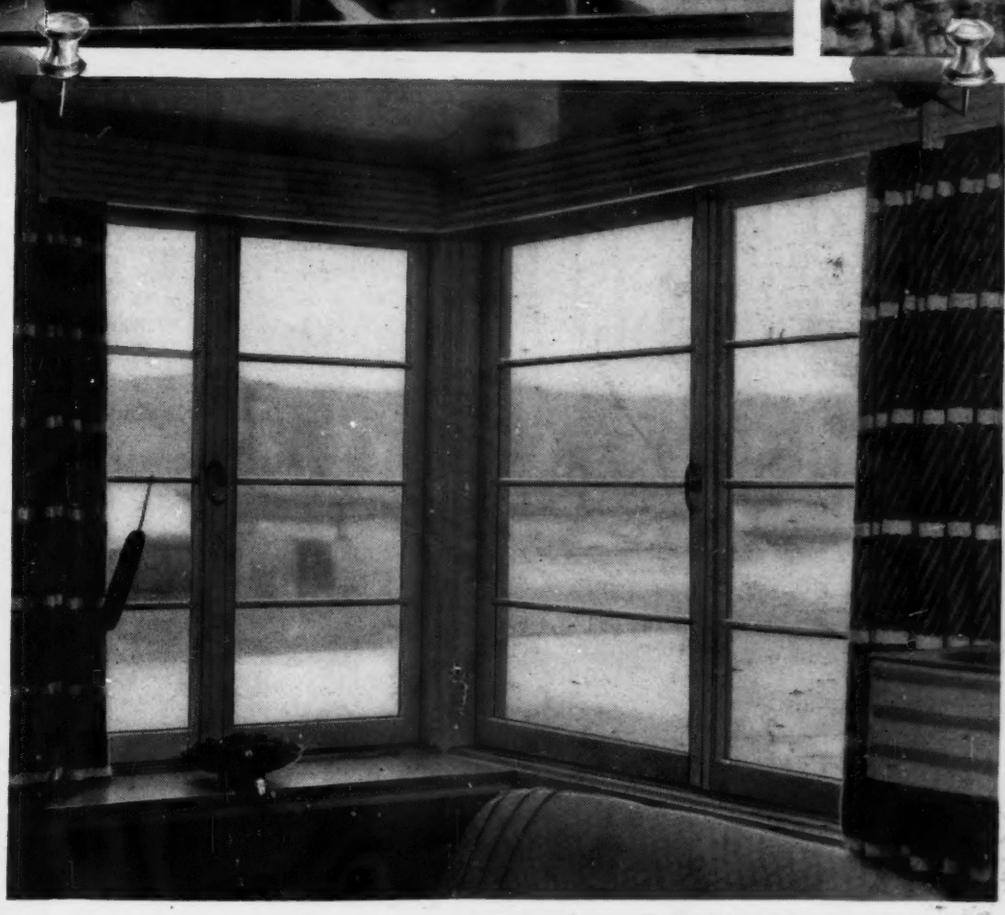
CASEMENT UNIT NO. 6438; 4'9½" x 4'2⅜" SASH OPENING SIZE.

There aren't yet enough Andersen window units to meet the current demand. Your needs for windows will be taken care of about as soon as other basic building materials are available.

Andersen Corporation BAYPORT • MINN.

Over the kitchen sink, a pair of Andersen Complete Wood Casement Units swing out to catch a summer breeze.

CASEMENT UNIT NO. 4326; 3'1 3/4" x 3'2 3/16" SASH OPENING SIZE.

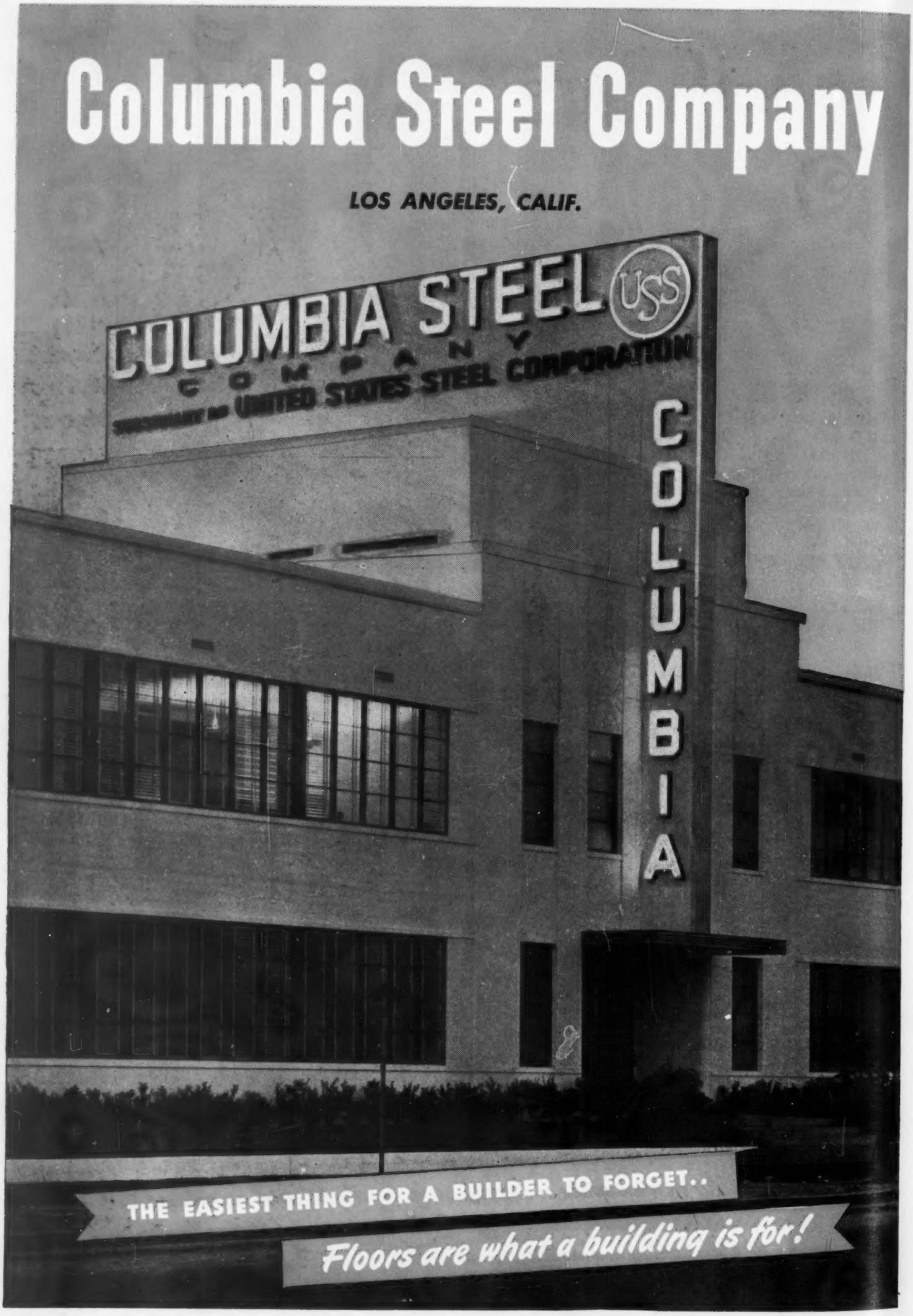


Thrifty on wall space... luxurious in sunlight and an outdoor vista ... a corner arrangement of two Andersen Horizontal Gliding Window Units. Weathertight as in a wall... sun-conditioned, as in a window... a true WINDOWALL.

HORIZONTAL GLIDING UNIT NO. 48040; 4'8 3/16" x 3'10 7/16" SASH OPENING SIZE.

Columbia Steel Company

LOS ANGELES, CALIF.



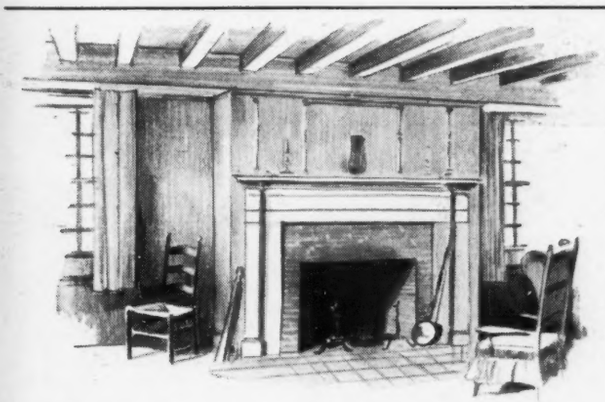
Architectural Dutch Treat

. . . A FIFTY-FIFTY PACT BETWEEN A HOUSE AND ITS OWNER LEFT A HAPPY HERITAGE FOR HOME LOVERS

■ This is an authentic version of the durable Dutch Colonial. Beloved by Americans for its friendly hominess, it fits the landscape like a sturdy oak, never inflicting a sense of stark newness. Its originator, the Dutch immigrant, perhaps made a pact with his house . . . a promise to build it honestly of stout timbers and native stone . . . receiving in return abiding security and cheer.

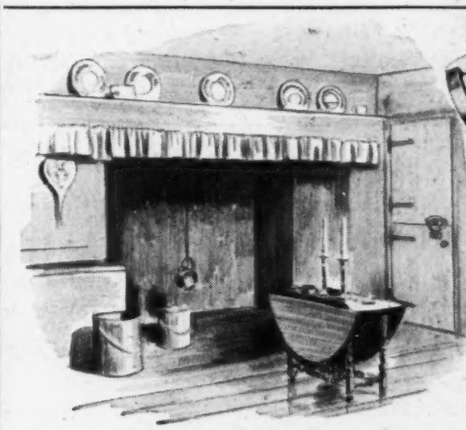
Russwin Plymouth Design Entrance Door Hardware No. 13013

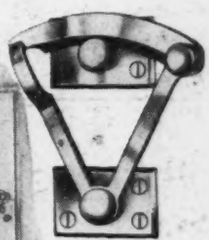
■ This is an ornamental doorway evolved from the earlier plain design to eliminate, by means of side and fan lights, the gloom of the central hall. Of course, the graceful design also expressed the owner's desire to make the entrance as inviting as possible. See how Russwin craftsmanship follows the authentic style in gleaming cast brass.



■ This is snug, restful comfort . . . beamed ceiling . . . warm tones of mellowed woods in hand-planed paneling . . . small-paned windows. The Dutch farmer contrived his house as honestly as he would a chair – to suit his personal comfort – for he was not the sort to pick up and move. If, like him, you would have enduring service from each detail of your home, look well to the hardware you choose. Allot a full 2% of the building cost to finish hardware – and Russwinize throughout with cast brass and bronze.

Russwin Interior Door Set No. 496-75





Russwin Plymouth Design Dutch Door Quadrant No. 050

■ This is the kitchen "workroom" – ample in space in the early days – more compact now by reason of modern appliances. The quaint charm of certain features has been retained, such as the Dutch door with its unique quadrant latch. Past masters in the authentic and serviceable, Russwin has the right hardware for your postwar house. Plan to choose from Russwin's illustrated booklet, *Residential Hardware.* Write for a copy. Russell & Erwin Manufacturing Company, New Britain, Connecticut.

FOR ENDURANCE . . . WROUGHT OR CAST BRASS AND BRONZE

FOR DESIGN AND WORKMANSHIP . . .

SINCE 1839

RUSSWIN

DISTINCTIVE HARDWARE

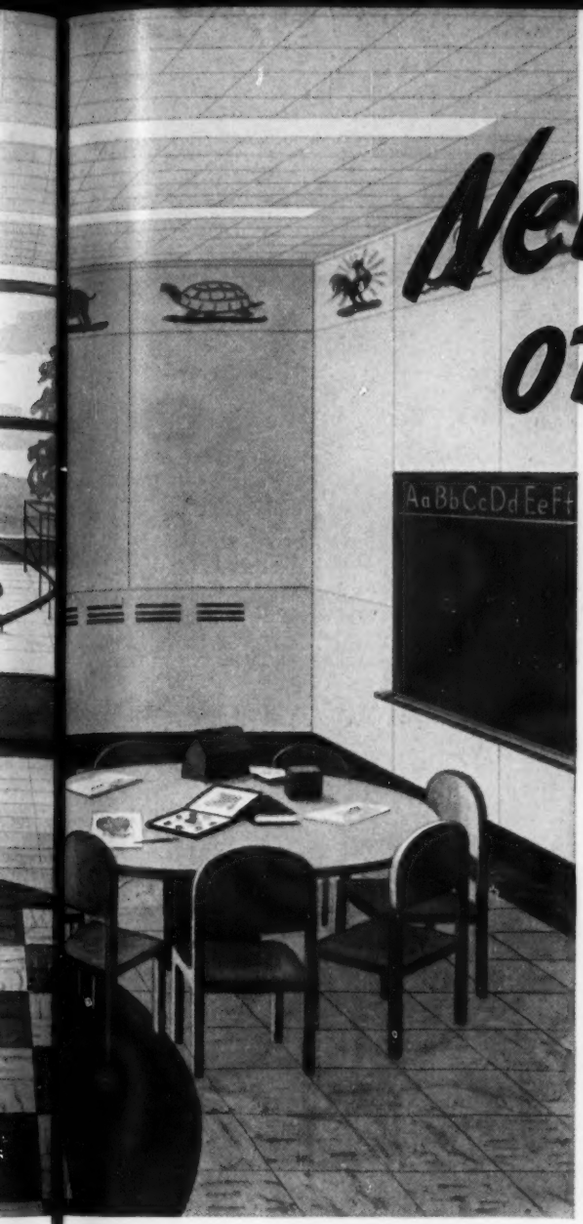
Johns-Manville Unit System provides complete interior—

Walls · Ceilings · Floors

1 **MOVABLE WALLS**—The keystone of flexibility in Unit Construction is the J-M Transite Wall. It can be disassembled and relocated as educational needs require. One-unit rooms, for instance, can be speedily converted into two-unit rooms, or vice versa. Made of fireproof asbestos and cement, practically indestructible materials, the movable panels are used to form rigid, double-faced partitions, 4″ thick. They can also be used as the interior finish of the outside walls. The Transite base is easily removable for access to wiring, etc.

2 **ACOUSTICAL CEILINGS**—Important factor in helping to overcome the handicap of distracting noise, Johns-Manville Acoustical Ceilings are beneficial both to teacher and student alike. They give the desired degree of quiet for effective teaching, eliminate frequent causes of nervousness, and are proved aids to concentration. An exclusive Johns-Manville patented construction system permits interchangeability of flush-type fluorescent lighting and acoustical ceiling units, which are readily demountable.

3 **COLORFUL, RESILIENT FLOORS**—J-M Asphalt Tile Flooring completes the Unit Construction System. Made of asbestos and asphalt, the units will withstand the kind of hard wear and abuse that must be expected in any school building. Not only durable, J-M Asphalt Tile Floors are pleasantly comfortable and quiet underfoot, thereby reducing the disturbing effects of noisy footsteps in corridors, gymnasiums, etc. Individual units permit easy alterations or extension of patterns. Made in a wide variety of plain and marbleized colors.



A kindergarten now, it may be a vocational room tomorrow—expanded or rearranged to meet a new need! That's the structural flexibility made possible by the Johns-Manville Unit System.

New Method of Classroom Construction

OFFERS FLEXIBILITY TO MEET EVER-CHANGING EDUCATIONAL NEEDS

Johns-Manville Unit Construction opens a practical, money-saving way to expand, convert, or subdivide schoolroom units

GIVE the school you are planning *complete flexibility* throughout the entire interior . . . plus all the qualities of *permanent* and *solid* construction!

You can easily do this with Johns-Manville Unit Construction . . . provide rooms that are durable and attractive, yet easy to make smaller or larger, easy to move or rearrange, according to the unpredictable and ever-changing educational needs of a community.

Furthermore, you can have J-M Unit Construction throughout the whole interior—Walls, Ceilings, Floors—under *one* specification, *one* manufacturer's responsibility.

Here are the three elements that make the system possible:

1. **Movable Walls** . . . quickly erected or dismantled; 100% salvageable; made of asbestos-cement Transite panels, hard to mar, highly resistant to shock and abuse.
2. **Acoustical Ceilings** . . . reduce distracting noise, increase classroom efficiency. Demountable units can be taken down and relocated as desired.
3. **Colorful, Resilient Floors** . . . quiet underfoot; easy to clean; stand up under heavy traffic. Small units permit easy extension.

The successful use of J-M Unit Construction in other fields has demonstrated its unique advantages for schoolroom construction.

Before building a new school or converting an old one, write for the complete details of this important development.
Johns-Manville, 22 E. 40th St., New York 16, N. Y.

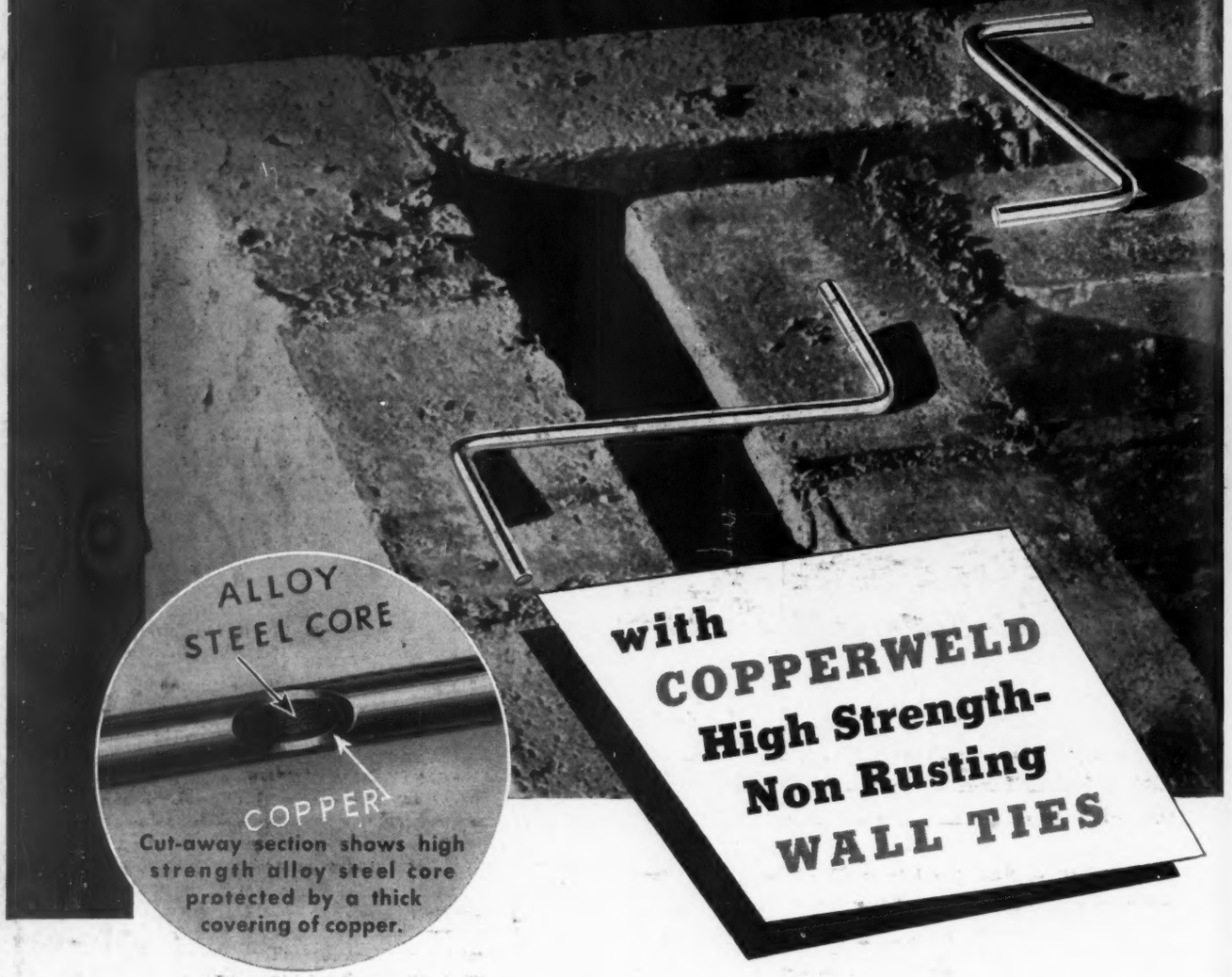
JOHNS-MANVILLE JM PRODUCTS

Johns-Manville Unit Construction

for entire *School* interior

WALLS • CEILINGS • FLOORS combining Permanence with Flexibility

Build Lasting Strength
INTO CAVITY WALL CONSTRUCTION



● To those buildings on your boards calling for cavity wall construction, you can add years of life by the use of Copperweld Wall Ties—and banish forever the bug-a-boo of wall failure induced by tie corrosion.

These ties are manufactured of high tensile alloy steel wire heavily covered with copper by the Copperweld molten-welded process. They are immune to chemical action within the wall. Moisture may penetrate the wall and reach the tie many years after the completion of the building—but the ties, protected by copper, will remain unaffected. Consequently, the breaking strength of this tie, about two tons, remains constant for the life of the building.

Building supply dealers now have Copperweld Wall Ties. Specify them on your next cavity wall job with every assurance that they will meet the test of time. Copperweld Wall Ties are recommended by the Structural Clay Products Institute.

Descriptive Literature on Request

COPPERWELD STEEL COMPANY
Glassport, Pa.
OFFICES IN PRINCIPAL CITIES

Your draftsmen need no longer spend valuable time in tedious hand-lettering. The Underwood Elliott Fisher Electric Lettering Machine will do the job better, quicker and at lower cost.

For drawings, charts, schedules and the many other forms used, this new machine gives your work uniformity, improved appearance and perfect legibility for any type of reproduction . . . with the speed and precision characteristic of machine operation.

In addition to lettering, this new Underwood machine can be used for other typing work. Send the coupon below for complete information about this important new equipment that makes lettering a drawing almost as simple as typing a letter.

ACCOUNTING MACHINE DIVISION

Underwood Corporation

ONE PARK AVENUE, NEW YORK 16, N. Y.

Makers of Underwood Typewriters, Accounting Machines, Adding-Figuring Machines, and Supplies.

CHECK THESE OUTSTANDING ADVANTAGES:

✓ **ELECTRIC KEYBOARD** . . . a full standard, electric keyboard . . . fast, simple and easy to operate . . . many times faster than hand methods.

✓ **SHARP AND CLEAR IMPRESSIONS** . . . a Special Blue Print Ribbon plus Dual Stroke Control of the electrically operated type bars assure proper density of every type impression to provide sharp and clear reproductions.

✓ **FLAT WRITING SURFACE PLATEN** . . . flat as a drawing board . . . accommodates small or large drawings with equal facility . . . provides unlimited flexibility for making corrections or revisions without removing the drawing from the machine.

✓ **COMPLETE VISIBILITY** . . . approximately 396 square inches of any large drawing or tracing may be clamped in lettering position on the platen quickly and easily. This entire area is completely visible to the operator for lettering at will.

✓ **PIN-POINT ACCURACY** . . . lettering can be positioned with pin-point accuracy anywhere on a drawing quickly and easily . . . a notched rifle-sight line-indicator tells the operator exactly where a type will print.

UNDERWOOD CORPORATION PP-12-45
One Park Avenue
New York 16, N. Y.

Gentlemen:

Please send me full details on the Underwood Elliott Fisher Electric Lettering Machine.

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Street_____

City_____ Zone____ State_____

MODERN STORE ENTRANCE MADE SAFE
With ALUNDUM Terrazzo Aggregate

The proprietors of this modern store were foresighted in requesting ALUNDUM Terrazzo Aggregate for the entranceway and vestibule. ALUNDUM Aggregate overcomes the slipperiness of terrazo—especially on wet days. Furthermore ALUNDUM Aggregate imparts exceptional durability to the terrazzo and, therefore, in addition to its non-slip feature, is recommended for places where traffic is concentrated. This ceramic abrasive for monolithic or pre-cast terrazzo is available in seven colors.

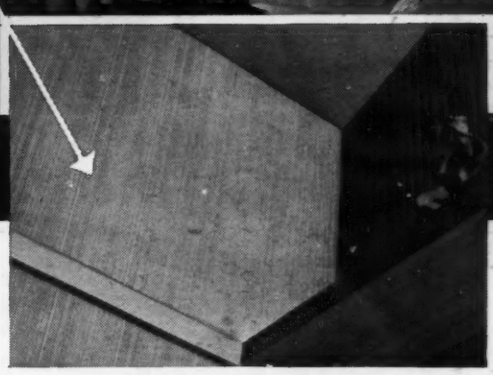
NORTON COMPANY
Worcester 6, Massachusetts

ALUNDUM is a registered trade-mark

Even One Room paneled with WELDWOOD

...makes the house more ATTRACTIVE!

● Residence of Mr. Paul Hayden Kirk, Seattle, Wash. It would be hard to picture a more charming spot than this Weldtex-paneled living room. Warm hominess radiates from every corner.



● *This close-up shows how the unique, grooved surface of Weldtex creates continuous changes of shading, as light hits the walls from different angles.*

The native warmth of wood paneling, even in one room, lends a charm few prospects can resist.

Your clients are sure to be pleased . . . and impressed . . . by your selection of this modern building material.

For Weldwood Hardwoods add extra appeal to every style of house, at surprisingly little cost. They form a beautiful, harmonious background for any type or style of furnishing, from modern to traditional.

All these fine hardwood plywoods, as well as Weldtex* (striated Weldwood) come in big, easy-to-handle panels 4 x 8 feet. They are installed quickly, easily and, once erected, require almost no maintenance. They are *permanent* walls.

Weldwood Plywood Panels are guaranteed for the life of any structure in which they are used.

Weldwood Plywood distributing units and display rooms are conveniently located in principal cities all over the country. You are invited to visit these display rooms to inspect the many beautiful woods or to obtain complete information and application data.

Practically every hardwood is on the Weldwood list . . . from fine domestic walnuts, oaks and birches, to exquisite imports, such as mahogany, teak and satinwood.

*Registered U. S. Patent Office.

Weldwood Plywood

Weldwood

Plastics and Wood Welded for Good

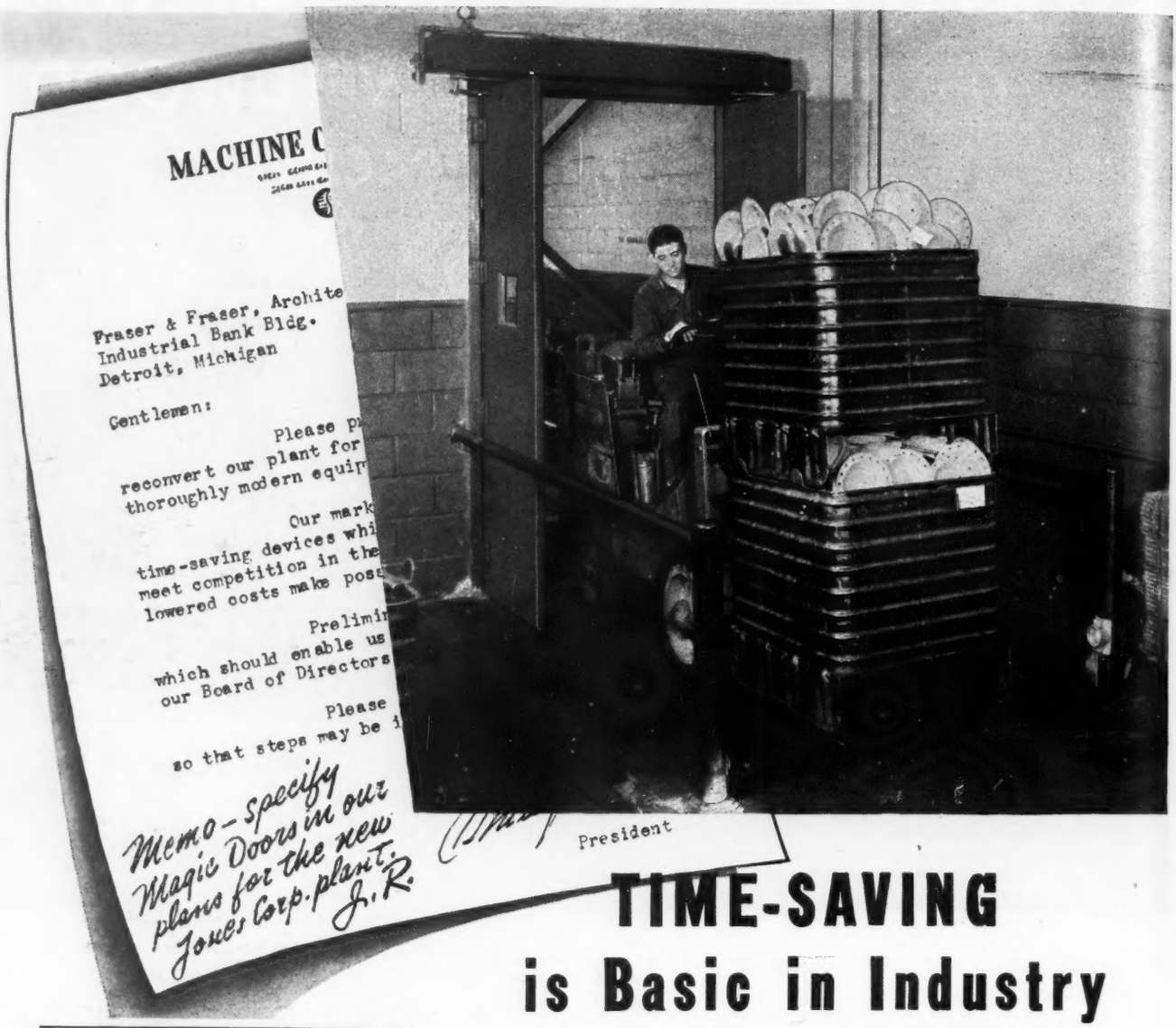
Waterproof Weldwood, so marked, is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood are manufactured with extended urea resins and other approved bonding agents.

Weldwood Plywood and Mengel Flush Doors are products of

UNITED STATES PLYWOOD CORPORATION
New York 18, N. Y.

THE MENGEL COMPANY
Incorporated
Louisville 1, Ky.

Distributing units in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, High Point, Los Angeles, Newark, New York, Oakland, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle. Also U. S.-Mengel Plywoods, Inc. distributing units in Atlanta, Jacksonville, Louisville, New Orleans. *In Canada:* United States Plywood of Canada, Limited, Toronto. *Send inquiries to nearest point.*


MACHINE C
Fraser & Fraser, Archite
Industrial Bank Bldg.
Detroit, Michigan
Gentlemen:
reconvert our plant for
thoroughly modern equip
time-saving devices whi
meet competition in the
lowered costs make pos
which should enable us
our Board of Directors
so that steps may be
President
Memo - specify Magic Doors in our plans for the new Jones Corp. plant. J. R.

TIME-SAVING is Basic in Industry

Stanley Magic Doors Open At Approach . . . Close After Passage . . . Completely Automatic . . . Save Working Time . . . Eliminate Damage . . . Quickly Repay Their First Cost

Every minute saved in transportation of parts or packages between departments in any industrial plant saves money. Stanley Magic Doors save minutes that add up to dollars every day. They speed up traffic, reduce accidents, save heat, eliminate breakage, cut door repair costs. For these reasons, architects took a professional liking to them right from the start!

Stanley Magic Doors, actuated by "electric eye", have been thoroughly time-tested. Their streamlined action earned a leading place in modern building plans. Make these sturdy, dependable, money-saving doors a part of your earliest discussions of industrial and commercial building projects. Stanley will cooperate with you in preparing plans and specifications. Fill out and mail the coupon now.

STANLEY

The trade-mark that appears on highest quality Butts, Hinges and other Hardware Equipment for commercial, industrial and residential buildings.

SEE OUR CATALOG IN SWEET'S

The Stanley Works,
Magic Door Div.,
New Britain, Connecticut

Gentlemen: Please send full information on Stanley Magic Doors for ( ) Commercial ( ) Industrial Use.

Name.....

Firm Name.....

Street.....State.....

City.....

STANLEY MAGIC DOORS

REQUIRE NO HAND TO OPEN

Education is "big business" too—

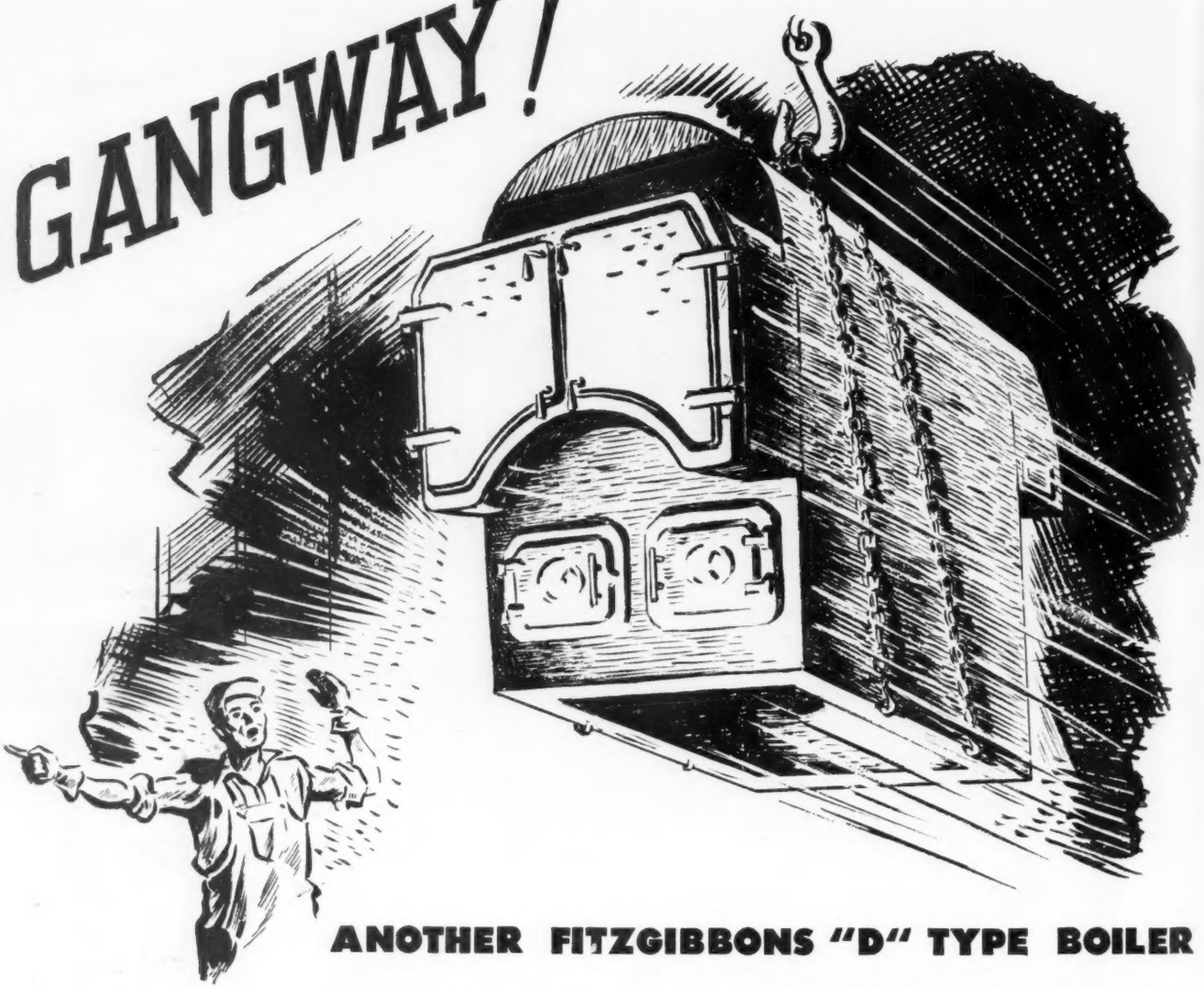
Today America's public school population is almost 25,000,000 strong. That includes 800,000 teachers . . . busy men and women who are doing one of the biggest, most important jobs in the nation. Why shouldn't they have the benefit of modern communications . . . *a daily necessity* which the business world takes for granted?

Leading school architects and engineers agree: modern schools require fast, dependable means of interior communication. That's why they are looking to "Connecticut" for all that's new in the field of inter-communicating telephone systems. It's the same with progressive school boards. Here are some of the reasons why . . . "Connecticut's" new free-running silent dials are more *noiseless* than ever . . . classroom cradlephones are equipped with either audible or visual signals . . . no soldered connections means that cradlephone parts are easily interchangeable. Want to know more about us, what we make and how we make it? Write for Bulletin 103, today. And remember, "Connecticut" also has a complete line of clocks, fire alarms, and signalling systems. For your free copy of Bulletin 103, address Great American Industries, Inc., Connecticut Telephone & Electric Division, 414 Britannia Street, Meriden, Connecticut.

Connecticut

TELEPHONE GAI SYSTEMS

GANGWAY!



ANOTHER FITZGIBBONS "D" TYPE BOILER

zooms through the air to a smooth landing on its flat-car. They're coming through fast, now that the big modern Fitzgibbons shop is completely reconverted from a 100% fightin' job. They're biting chunks out of the sheaf of back orders held up by steel shortages and retooling. Fitzgibbons "D" type steel boilers are on the way.

GANGWAY for the boiler scheduled for that hospital . . . for that fine new apartment . . . for that replacement job in a school. **Gangway** for all the other heating jobs that need a real, fuel-saving, quick-steaming steel boiler. "D" type boilers are coming through. Though materials are still a bit tight, the condition is improving. Fitzgibbons is back in the boiler business. **Gangway!**

60TH YEAR

Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.

Works: OSWEGO, N. Y.

Member Indoor Climate Institute

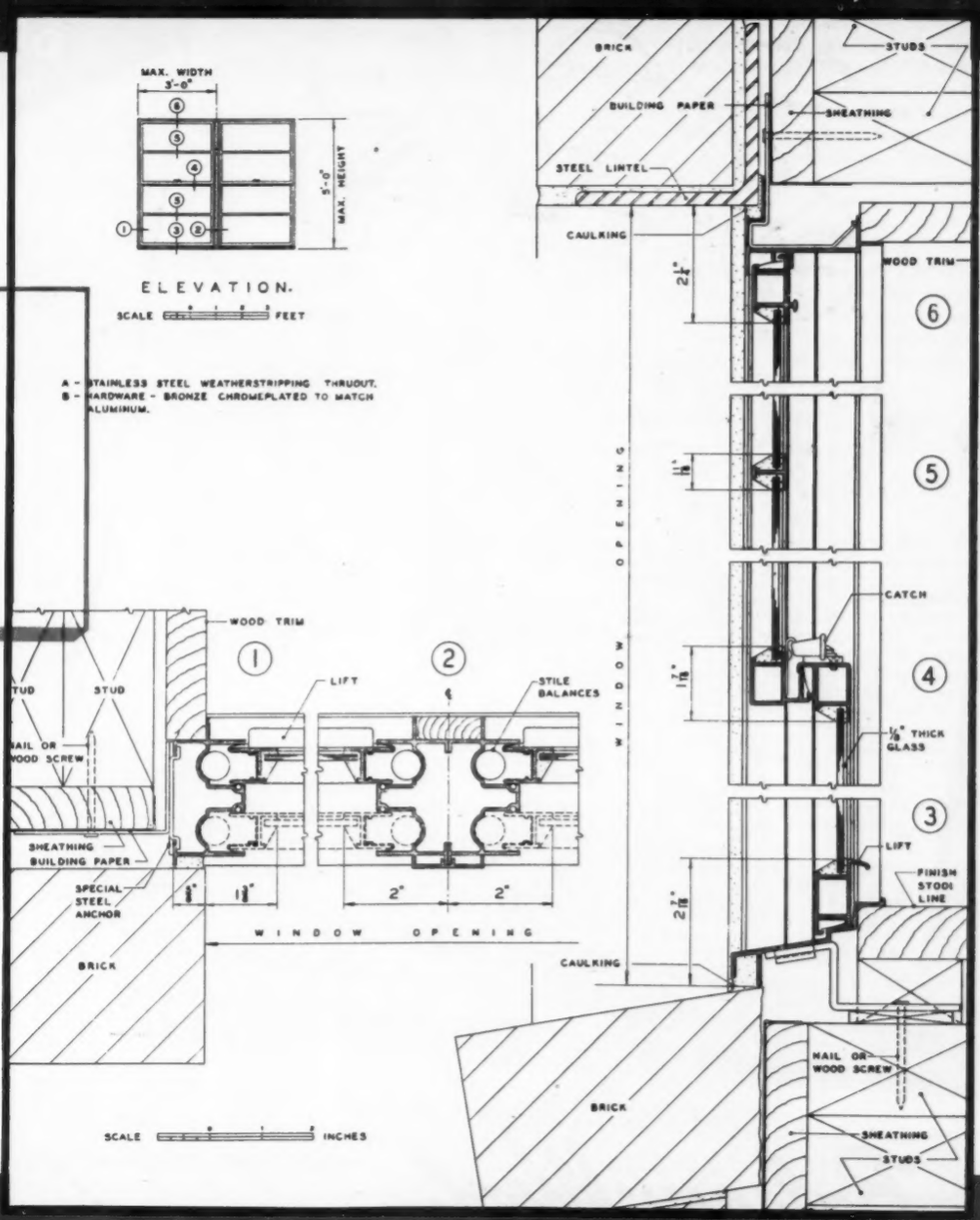
Branches in Principal Cities

Member Steel Boiler Institute

FOR RESIDENCES AND APARTMENTS

SPECIFY THESE LOW COST

ALWINTITE ALUMINUM WINDOWS



DETAILS OF ALWINTITE ALUMINUM DOUBLE HUNG RESIDENTIAL WINDOW

SERIES DHA-O

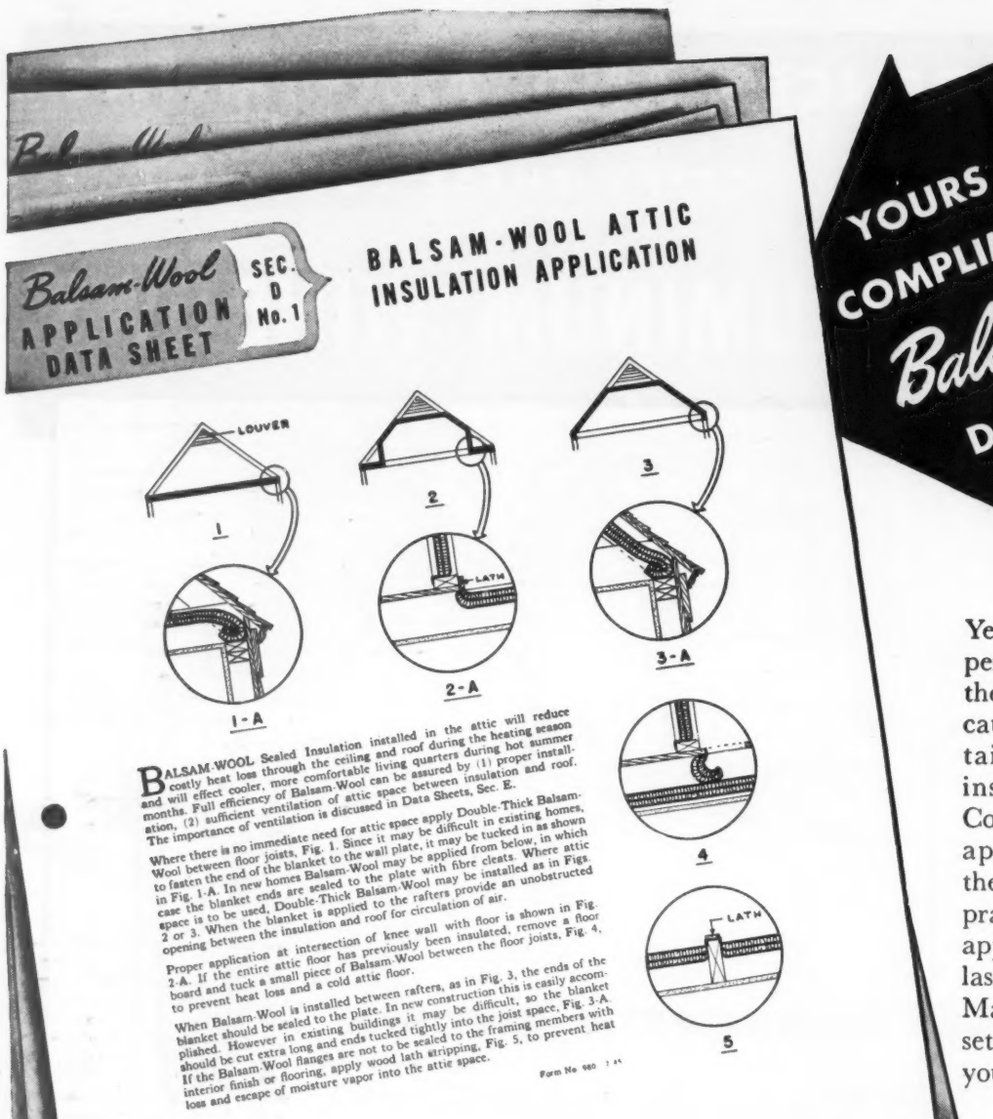
ANOTHER GB BUILDING PRODUCT

Use these modern ALWINTITE Aluminum Windows for any residential structure you design. They are now in production for early delivery and will be available in 9 stock sizes. They embody many patented features found only in expensive custom-built windows. Write today for complete information.

THE ALUMINUM WINDOW CORPORATION

A subsidiary of General Bronze Corporation

34-11 TENTH STREET LONG ISLAND CITY 1, N. Y.


Balsam-Wool
APPLICATION DATA SHEET
SEC. D No. 1
BALSAM-WOOL ATTIC INSULATION APPLICATION
LOUVER
1
1-A
2
LATH
2-A
3
3-A
4
LATH
5
BALSAM-WOOL Sealed Insulation installed in the attic will reduce costly heat loss through the ceiling and roof during the heating season and will effect cooler, more comfortable living quarters during hot summer months. Full efficiency of Balsam-Wool can be assured by (1) proper installation, (2) sufficient ventilation of attic space between insulation and roof. The importance of ventilation is discussed in Data Sheets, Sec. E.
Where there is no immediate need for attic space apply Double-Thick Balsam-Wool between floor joists, Fig. 1. Since it may be difficult in existing homes, to fasten the end of the blanket to the wall plate, it may be tucked in as shown in Fig. 1-A. In new homes Balsam-Wool may be applied from below, in which case the blanket ends are sealed to the plate with fibre cleats. Where attic space is to be used, Double-Thick Balsam-Wool may be installed as in Figs. 2 or 3. When the blanket is applied to the rafters provide an unobstructed opening between the insulation and roof for circulation of air.
Proper application at intersection of knee wall with floor is shown in Fig. 2-A. If the entire attic floor has previously been insulated, remove a floor board and tuck a small piece of Balsam-Wool between the floor joists, Fig. 4, to prevent heat loss and a cold attic floor.
When Balsam-Wool is installed between rafters, as in Fig. 3, the ends of the blanket should be sealed to the plate. In new construction this is easily accomplished. However in existing buildings it may be difficult, so the blanket should be cut extra long and ends tucked tightly into the joist space, Fig. 3-A. If the Balsam-Wool flanges are not to be sealed to the framing members with interior finish or flooring, apply wood lath strapping, Fig. 5, to prevent heat loss and escape of moisture vapor into the attic space.
Form No. 980
FILE A. I. A. 37
WOOD CONVERSION COMPANY
First National Bank Building
Saint Paul 1, Minnesota
BALSAM-WOOL Products of Weyerhaeuser NU-WOOD
High Thermal Efficiency
Built for Permanence
Non-Settling
Flame-Proof
Wind-Proof
Moisture-Proofed

YOURS, WITH OUR COMPLIMENTS, THESE *Balsam-Wool* DATA SHEETS

Years of research and experience are embodied in these Balsam-Wool Application Data Sheets, containing latest data on insulation application. Covering a wide range of application problems, these sheets assure the best practice in many types of application—help create lasting owner satisfaction. Mail the coupon now for set of data sheets—they're yours for the asking!

Balsam-Wool

SEALED INSULATION

1. WINDPROOF
2. MOISTURE-PROOFED
3. FIRE RESISTANT
4. LASTING
5. NON-SETTLING
6. HIGHLY EFFICIENT

BALSAM-WOOL • NU-WOOD
Products of Weyerhaeuser

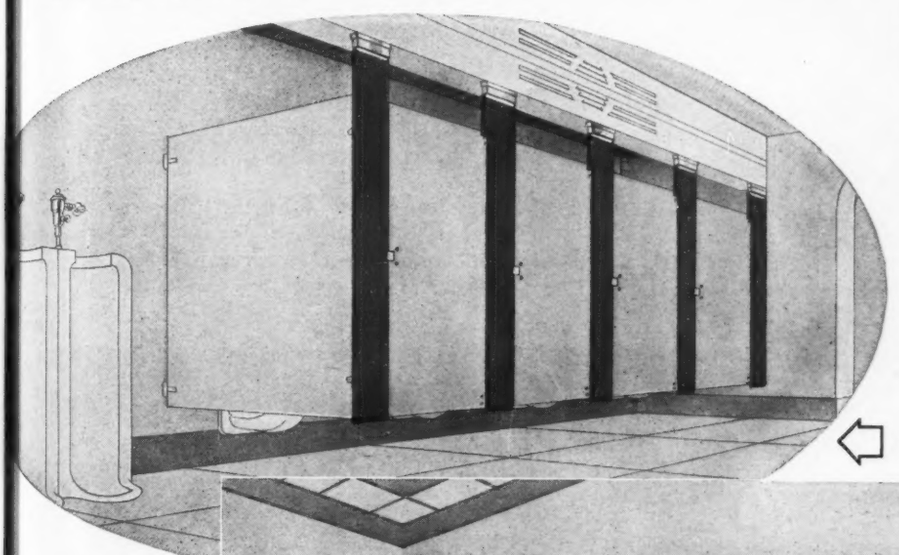
WOOD CONVERSION COMPANY
Dept. 117-12, First National Bank Bldg.
St. Paul 1, Minnesota
Gentlemen:
Please send me set of application data sheets.
Name ..... Address .....
City ..... State .....

A TOILET ROOM ENVIRONMENT IS AS *important* AS OTHER ENVIRONMENTS

THE TREATMENT of a toilet room environment is no longer secondary to its utility. Blending the utility of toilet facilities with appropriate toilet room environments results in environments that are in keeping with modern interior environmental treatments. Toilet compartments usually dominate a toilet room and influence the toilet room environment. Resuming a pre-war practice, Sanymetal again offers several different types of toilet compartments for creating the most suitable toilet room environment for every type of building. Sanymetal "Porcena" Toilet Compartments will be utilized in buildings of the future because they are fabricated of the ageless and fadeless material, porcelain on steel. Sanymetal "Porcena" Toilet Compartments embody the results of over 30 years of specialized skill and experience in making over 68,000 toilet compartment installations. Ask the Sanymetal Representative in your vicinity for information about planning suitable toilet room environments. Refer to Sanymetal Catalog 19B-5 in Sweet's Architectural File for 1945, or write for file copy of Catalog 83.

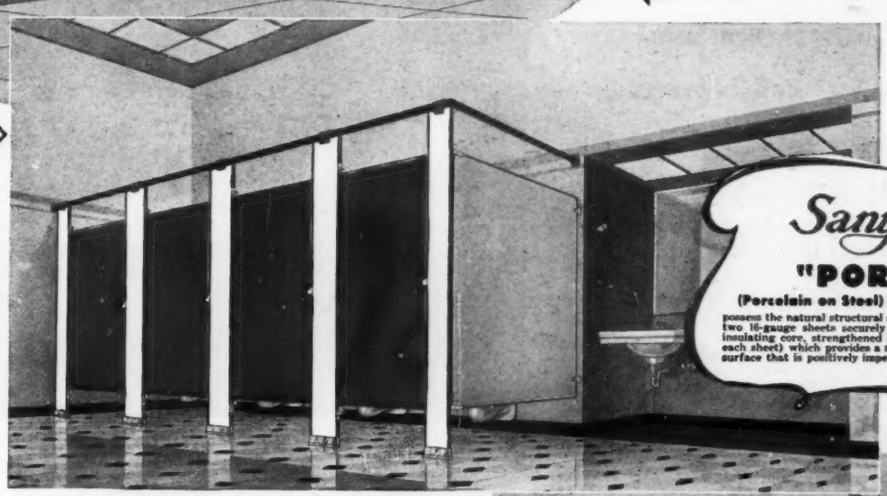
THE SANYMETAL PRODUCTS COMPANY, INC.
1683 Urbana Road • Cleveland 12, Ohio

Sanymetal Normandie Type Toilet Compartments impart a moderately streamlined effect to a toilet room environment. Streamlined design wedded to utility fulfills all requirements. Unadorned utility no longer satisfies a public accustomed to bathrooms embodying varying degrees of modernity and elegance. Available in three finishes: (1) "Porcena" (porcelain on steel); (2) "Tenac" (baked-on paint enamel finish over galvanized, bonderized steel); (3) baked-on paint enamel finish over regular furniture finish, cold rolled steel. "Porcena" (porcelain on steel) is available in a variety of standard colors.



Sanymetal Century Type Ceiling Hung Toilet Compartments are particularly appropriate for schools, institutions, public buildings, office buildings, hotels, clubs, industrial plants, and theaters. They impart dignity, refinement, and cheerfulness to the toilet room environment. They make up into a rigidly fixed installation. Available in three finishes: (1) "Porcena" (porcelain on steel); (2) "Tenac" (baked-on paint enamel finish over galvanized, bonderized steel); (3) baked-on paint enamel finish over regular furniture finish, cold rolled steel.

ymetal Academy Type let Compartments ide a certain distinc- ness. This type of par- n is the only one in h all the dignity and ctiveness of stand- flush type construc- unmarred by posts, is opria.ely combined headrail. These compartments are lable in three finishes: "Porcena" (porce- on steel); (2) ac" (baked-on paint el finish over galva- , bonderized steel); baked-on paint en- finish over regular iture finish, cold d steel.



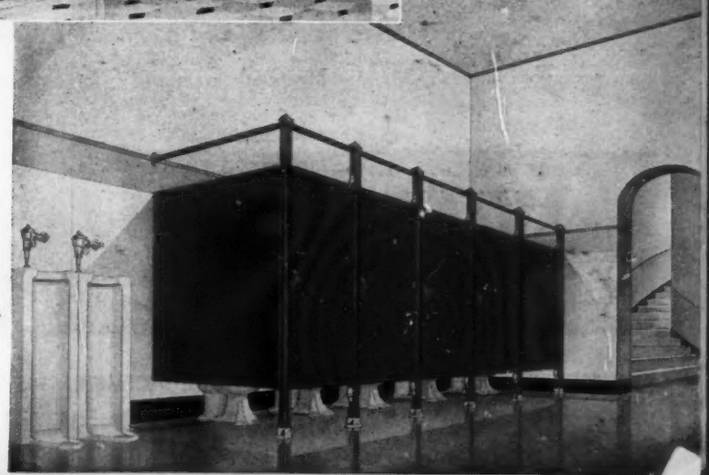
Sanymetal*
"PORCENA"
(Porcelain on Steel) TOILET COMPARTMENTS
possess the natural structural strength of steel, not one sheet, but two 16-gauge sheets securely bonded on opposite sides of dense insulating core, strengthened by porcelain enamel (four layers on each sheet) which provides a non-porous, flint-hard, glass-smooth surface that is positively impervious to odors, acids and moisture.

Sanymetal*

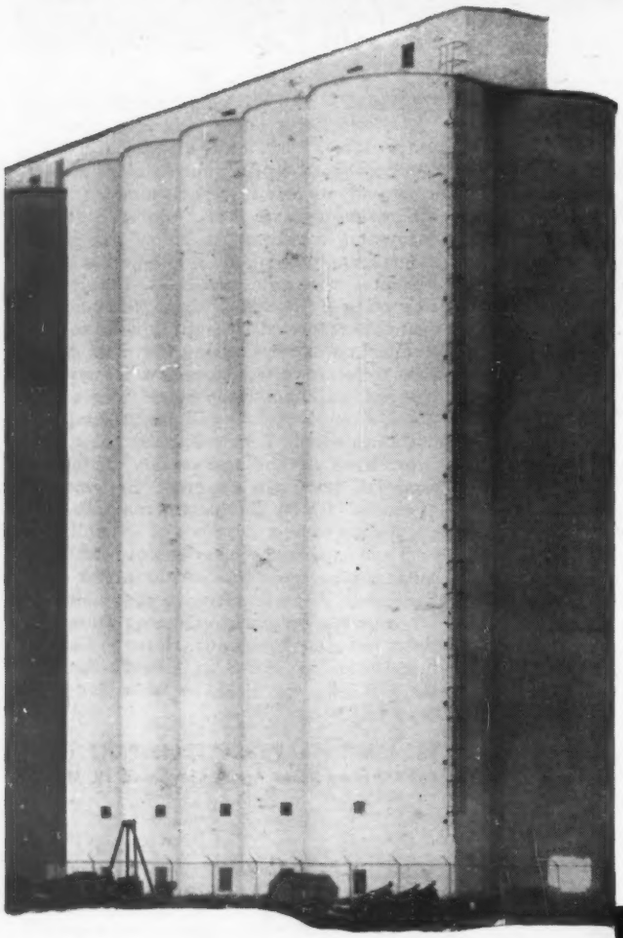
**Trade Mark Reg. U. S. Pat. Off.*

TOILET COMPARTMENTS
and Office Partitions

ymetal Standard Flush Type Toilet Compartments: This type of toilet partment is regarded as a standard. Sanymetal Standard Flush Type partments are suitable for toilets, lavatories, dressing rooms, and ward ms in all types of buildings. Sanymetal Standard Flush Type Compart- ts harmonize and blend well with the effects produced by materials com- ly used for walls, ceilings, and floors. They are available in steel or minum with baked-on paint enamel finish. Also available with partition ts only in "Porcena" (porcelain on steel).

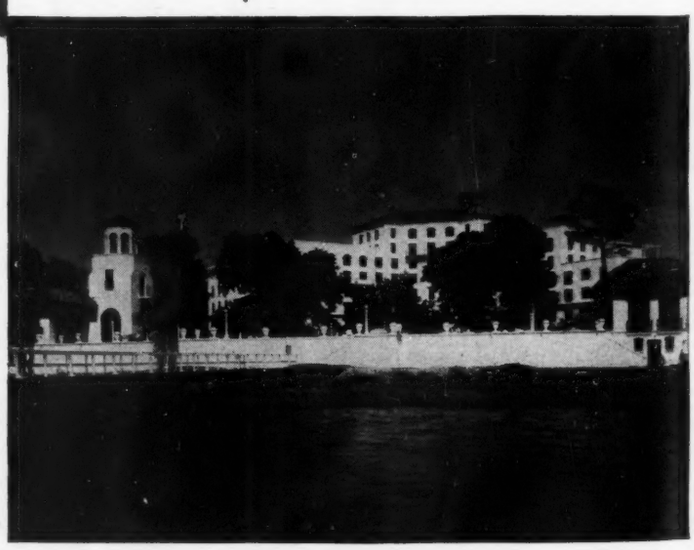


PUT THIS RAINCOAT ON YOUR BUILDINGS



Exterior Masonry needs this protection from northwestern flour mills to southern resort hotels

To extend the life of your buildings you must impede the penetration of water into your concrete, brick or stucco walls, preventing reinforcing bar rust, spalling or disintegration. All this is accomplished by Waterfoil which is unlike any other protective coating. Waterfoil is manufactured of irreversible inorganic gels which bond chemically and physically to form a dense, hard protective outer layer on structural masonry surfaces. Waterfoil beautifies and protects at the same time.



Shabby buildings exteriors treated with Waterfoil undergo an amazing change in appearance and condition. Waterfoil improves the appearance of a structure and lengthens its life. It is easily applied. We took ten years to develop and test it. Send today for the Waterfoil literature. It's most important to owners and operators of all factories, warehouses, hotels, apartments and business buildings.

Horn Products and Methods Protect Millions of Square Feet of Surface Throughout the Nation

A HORN PRODUCT

WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

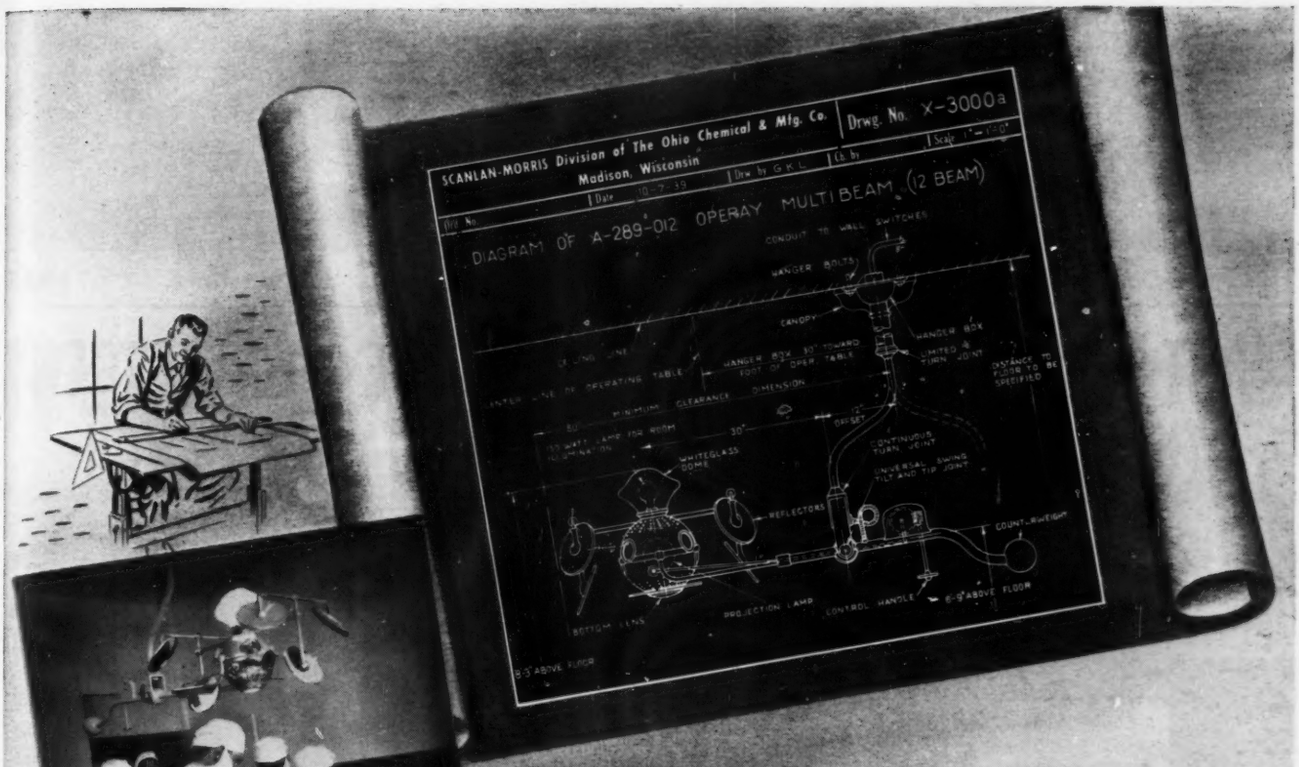
A. C. HORN COMPANY, Inc.

Established 1897

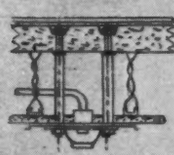
Subsidiary of the Sun Chemical Corporation

Manufacturers of Materials for Building Maintenance and Construction • Long Island City 1, N. Y.

Houston, Texas • Chicago, Illinois • San Francisco, Calif.



Scanlan-Morris
SURGICAL LIGHTING SPECIALISTS
Supply Valuable Assistance to Hospital Architects



Because surgery demands the finest lighting that science can devise, hospital architects find essential the assistance of specialists in surgical lighting when planning the installation of lighting fixtures in operating and delivery rooms.

Scanlan-Morris engineers have devoted many years of intensive study to the developing of lights that provide abundant illumination of the operating field and the depths of surgical cavities. Years of contact with hospital executives, surgeons and architects qualify our Technical Sales Service Department to give valuable and authentic guidance in the important matter of proper surgical lighting.

Operay Multibeam and Surg-O-Ray lighting fixtures, manufactured by the Scanlan-Morris Division, are used in prominent hospitals throughout the world.

Architects are invited to submit list of requirements and to send for illustrated literature containing wiring and installation drawings and other valuable data on:

OPERAY MULTIBEAM
5-Beam and 12-Beam-Plus
Ceiling-Hung Surgical Lights

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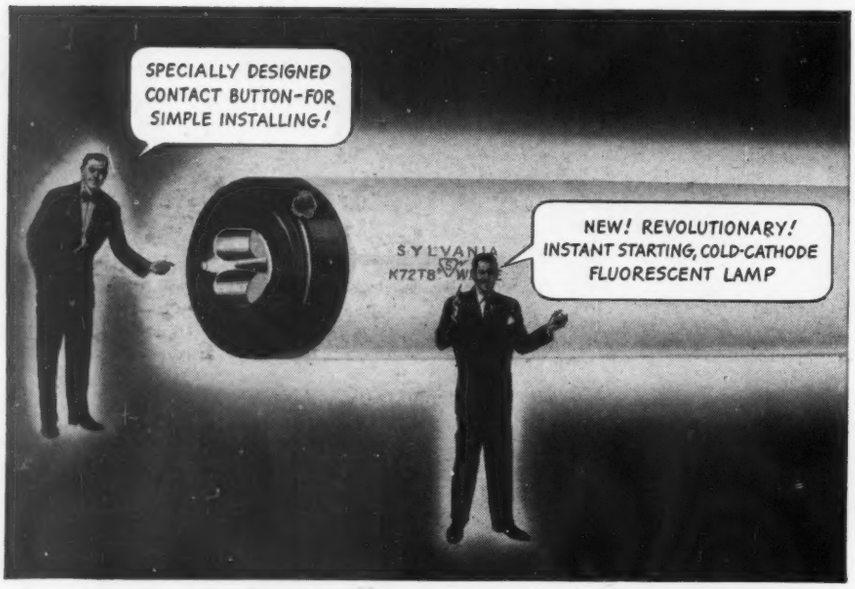
SYLVANIA NEWS
ARCHITECTURAL EDITION

DEC. *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

FIRST INSTANT START, COLD-CATHODE FLUORESCENT (K) LAMPS PRODUCT OF SYLVANIA RESEARCH

Another Step In The Completion Of Sylvania Electric's Lamp Line



Newest of Sylvania Electric's developments—the K Fluorescent Lamp—instant starting, cold-cathode, long-lasting.

Lamp Designation	K96T8	K72T8
Nominal Lamp Length*	96"	72"
Bulb Diameter	T-8	T-8
Lamp Current, Milliamperes	120	120
Life Expectancy, Hours	10,000	10,000

*Measured from back to back of the two lampholders.

Architects, in particular, will be interested in the following special advantages to be derived from installations of Sylvania K (cold-cathode) fluorescent lamps:

- They will be *instant starting.*
- They will have *a rated life of 10,000 hours.*
- Will be virtually *unaffected by the frequency of on-and-off operation.*
- The base has a *specially designed* contact button for simple installing and maintenance. The lampholder is punched with a hole of similar design so that L-S lamps, similar in size and appearance, cannot be inserted by mistake.
- These lamps can be dimmed.

This newest of Sylvania's developments in fluorescent lighting will be placed on a standard production basis. They will be available early in 1946 through the usual distribution channels—will be made in 48", 72" and 96" lengths of 1-inch (T8) diameter—and will come in the standard white color. Soft white, daylight and a wide variety of other color lamps will be added as the demand arises.

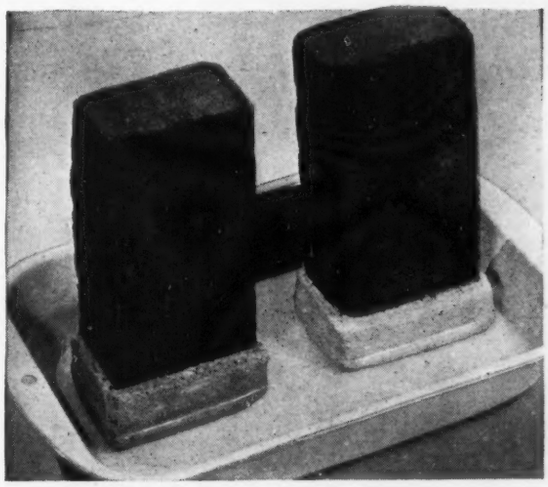
Addition of these *cold-cathode* lamps to the regular line of fluorescent products makes Sylvania Electric the first lamp company to offer a *complete* line of fluorescent lamps.

SYLVANIA ELECTRIC

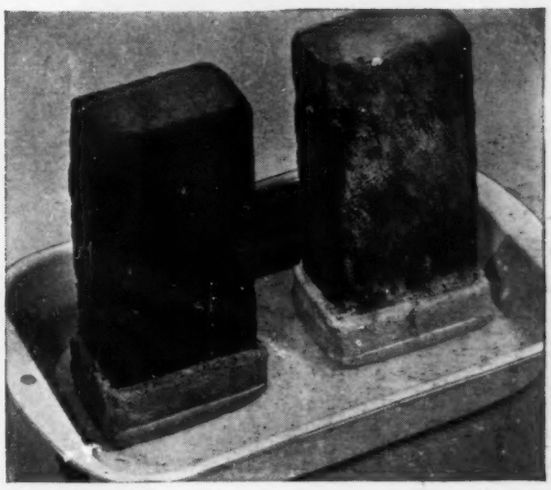
MAKERS OF FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES; ELECTRIC LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

BRIXMENT MORTAR

Helps Prevent Efflorescence



To test two mortars for resistance to efflorescence, "cap" two brick heavily with the mortars — let harden, and keep both brick for a few weeks in a shallow pan of water, as shown. Try this with Brixment mortar!



HERE'S WHAT CAUSES EFFLORESCENCE—AND WHY BRIXMENT MORTAR HELPS CONTROL IT

Efflorescence is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading.*

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall.

Brixment itself *does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the waterproofing in Brixment usually *prevents them from coming to the surface.*

Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment than with any other mortar.

LOUISVILLE CEMENT CO., Incorporated, LOUISVILLE 2, KENTUCKY

CEMENT MANUFACTURERS SINCE 1830

Backbone of Ceilings Unlimited

...the patented Miller Ceiling Furring Hanger for any type furred ceiling

This unique bracket is the "can do" behind today's trend in construction and renovation . . . the trend of planning interiors *around the lighting.*

Designed, patented and produced only by The Miller Company, this ingenious hanger licks many old construction problems—without creating *new* problems.

It is no longer necessary to laboriously fit recessed lighting into hung ceilings. Instead, one simply hangs Miller Ceiling Furring Hangers from the structural ceiling—and furring, tile and Troffer Lighting System are hung *from the hangers!*

Thus, installation is speeded, wire, wiring and conduit costs are cut—substantially—simple leveling means are provided...and, because less than half the usual supports are needed, there is more "above ceiling space" for piping and air conditioning ducts.

The complete story is too big for this page. It is fully told in the new brochure catalog—CEILINGS UNLIMITED.

Miller Engineers and distributors are located in principal cities.

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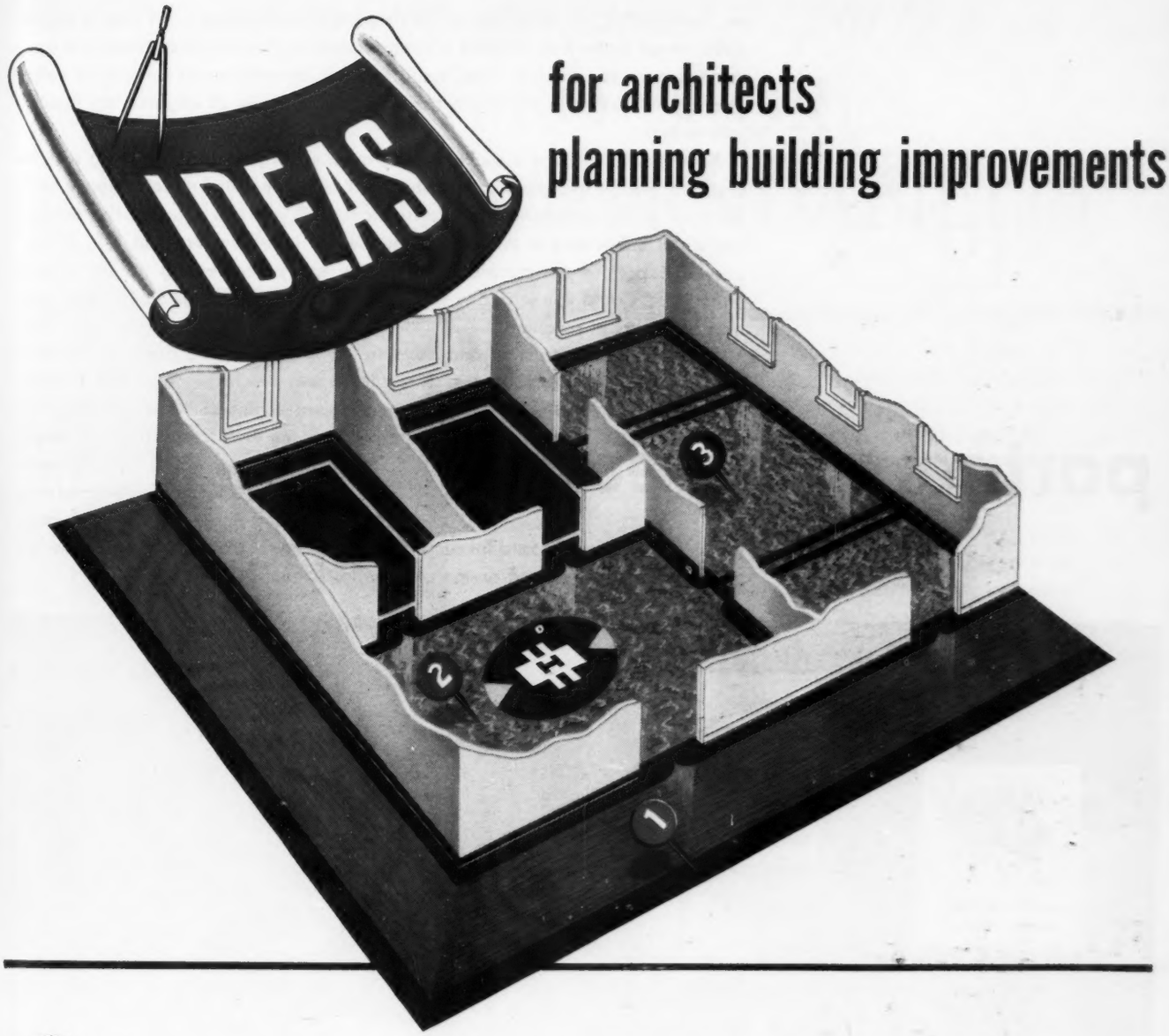
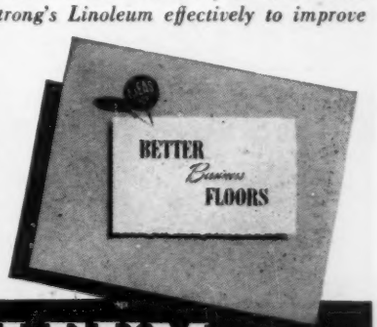


1 **Modernize corridors** with durable Armstrong's Linoleum Floors. These floors form a pleasing background for modern building improvements, help brighten corridors, and help attract long-term tenants.

2 **Reception room floors,** custom designed in Armstrong's Linoleum, give a smart, inviting office suite entrance. Offered in a variety of colors, Armstrong's Linoleum readily lends itself to custom designing.

3 **Inner office floors** of colorful Armstrong's Linoleum help create a cheerful working atmosphere. And they're resilient—comfortable to walk on—easily maintained. Armstrong's Linoleum Floors are durable, long lasting, and, with proper care, will remain attractive and new looking through years of hard service.

SEND FOR YOUR FREE COPY *of "Ideas for Better Business Floors." This new, color-illustrated book shows how many architects and designers have used Armstrong's Linoleum effectively to improve appearance and create a customer-inviting atmosphere in their client's shops, offices, and stores. Just write Armstrong Cork Company, Floor Division, 6912 State Street, Lancaster, Penna.*



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partners in creating

● "Impossible" is a word that is not recognized by engineers. To dam a mighty river, tunnel under it or suspend a bridge across it—things such as these that once seemed pure imagination were made possible by instruments devised to refine and extend human faculties, to translate the precision of engineering thought into action.

Keuffel & Esser Co. is proud to have played so large a part in making such instruments widely available. In this way K & E equipment and materials have been partners of the engineer and draftsman for 78 years in shaping the modern world. So universally is this equipment used, it is self-evident that K & E have played a part in the completion of nearly every engineering project of any magnitude. Could you wish any surer guidance than this in the selection of your own "partners in creating"?

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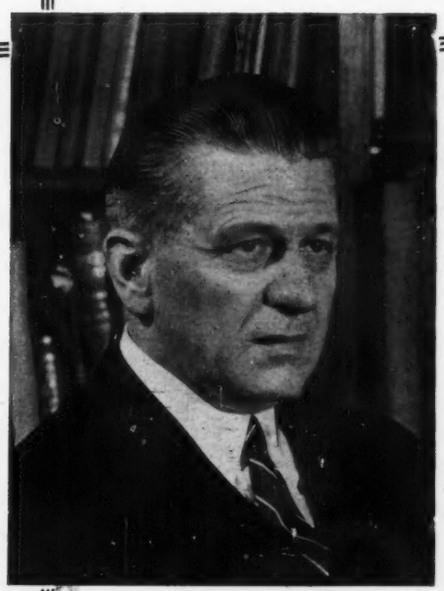
Another architect reports . . .

PETRO SCORES 100% ON DEPENDABILITY



Charles M. Hart, N. Y. architect, is well-known for many outstanding buildings the country over, including such important structures as the Dearborn Inn Colonial Village, Dearborn, Michigan, owned by the Ford Motor Company, and the Queensboro Bus Company building in Long Island City, New York. Mr. Hart has consistently specified Petro equipment.

•

INDUSTRIAL MODELS—#5 or #6 fuel oil, manual, semi- or automatic operation, 8 sizes to 450 bhp. "Thermal Viscosity" preheating.

DOMESTIC MODELS—#3 or lighter oils, "conversion" and combination-unit types, 7 sizes "Tubular Atomization" (Patented).

FULL DATA on Petro Industrial Burners are in Sweet's—or Domestic Engineering—catalog files. Details on Petro Domestic burners available in separate catalog. Copy of either sent gladly on request.

Dependability is still the important yardstick that measures the true value of a product or service. For this reason, the following comments on Petro Oil Heating Systems by another well-known architect deserve serious consideration:

> *"In the great building program which faces us,* reliable *and efficient operation must be expected from heating systems. I know from experience that Petro equipment is* 100 per cent dependable. *There is no odor or objectionable noise where Petro is used, and no annoyance from smoke and ashes. I have found their system operates economically."*

> *"After I went personally with a client to the Petro showrooms in Stamford, I was agreeably impressed by the competent cooperation from the Petro organization. My clients were pleased, and this office was thankful that we had such a splendid source of service."*

Petro is not only manufacturing oil burners and other oil heating equipment of proven dependability, but providing engineering cooperation and service that are designed to help meet the needs of both architects and engineers in the huge construction activity that lies ahead.

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Cuts Steam Costs

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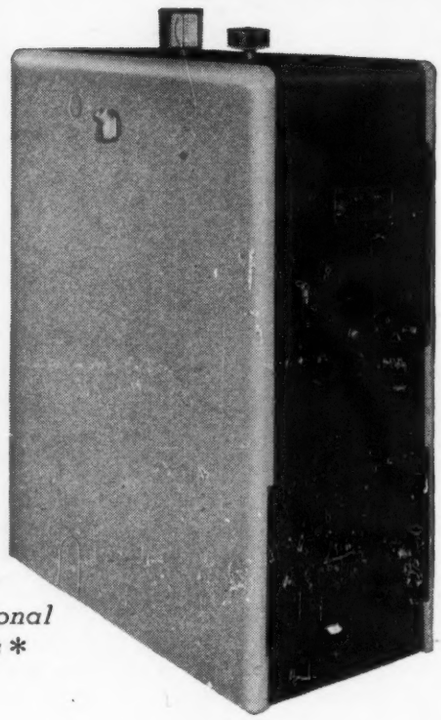

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The No. 1 Series Heat Extractor illustrated has, as one of its features, a water-cooled safety base for installation in kitchen or utility room. Compact and dependable, the No. 1 series is especially designed for smaller homes.

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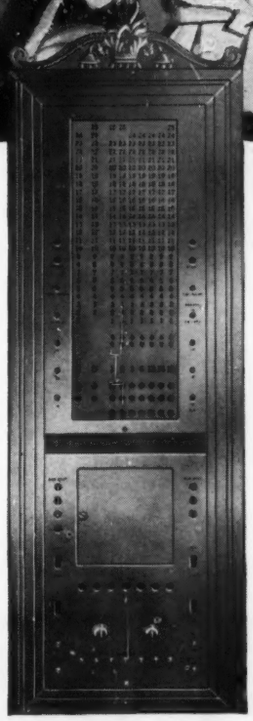

Dispatching Panel: Indicates position and direction of travel of the car and the location of waiting passengers.

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This scientific system of elevator operation and dispatching provides the highest quality and maximum quantity of service for a given number of elevators.

Otis dispatching is your assurance that every car is doing an equal share —that the flow of traffic is evenly distributed over the entire plant.

So, when it comes to new elevator installations or getting more work from your present equipment, investigate the possibilities offered by Otis dispatching equipment.

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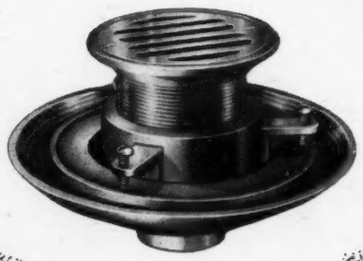
WADE gives you TEN reasons for specifying the Series W-1100 Floor and Shower Drain



Men who specify any product have a reason for doing so. The Wade Manufacturing Company suggests the following ten reasons for specifying the Series W-1100 Floor and Shower Drain as illustrated above.

REASON #1 Only sound, uniform, flawless castings are used.

REASON #2 The Series W-1100, like all Wade products, represents the finest craftsmanship in machining and finishing.

REASON #3 Furnished with adjustable strainer to provide for varying floor thicknesses.

REASON #4 Positive clamping rings prevent flashing crimping.

REASON #5 A longer shank for greater adjustment with shank and body with standard threads.

REASON #6 Supplied with standard pipe threads carefully gauged for a tapped outlet, or with a long and extra wide caulking shoulder for a hubbed outlet; convenient for caulking tools.

REASON #7 More and larger weepholes, cast integrally — high enough so waterproofing won't plug them up.

REASON #8 Conforms to Government Specification WW-P-541a, Fig. 106 and paragraph 39-E, and also to Veteran's Administration Specifications for Type C drains.

REASON #9 Scientifically engineered to provide the greatest protection, long life and easy installation.

REASON #10 Maximum dollar for dollar value.

Remember these features the next time you specify floor and shower drains; and remember, too, the complete line of Wade quality products.

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Progressive architects and contractors are thinking in terms of Stran-Steel . . . shaping their building plans around this uniform precision material. Its ease of use and speed of erection have been demonstrated in tens of thousands of "Quonsets" and other military buildings framed with Stran-Steel during the war. Improved and simplified for postwar use, Stran-Steel is ready to take its place as the framing material of a new era in building.

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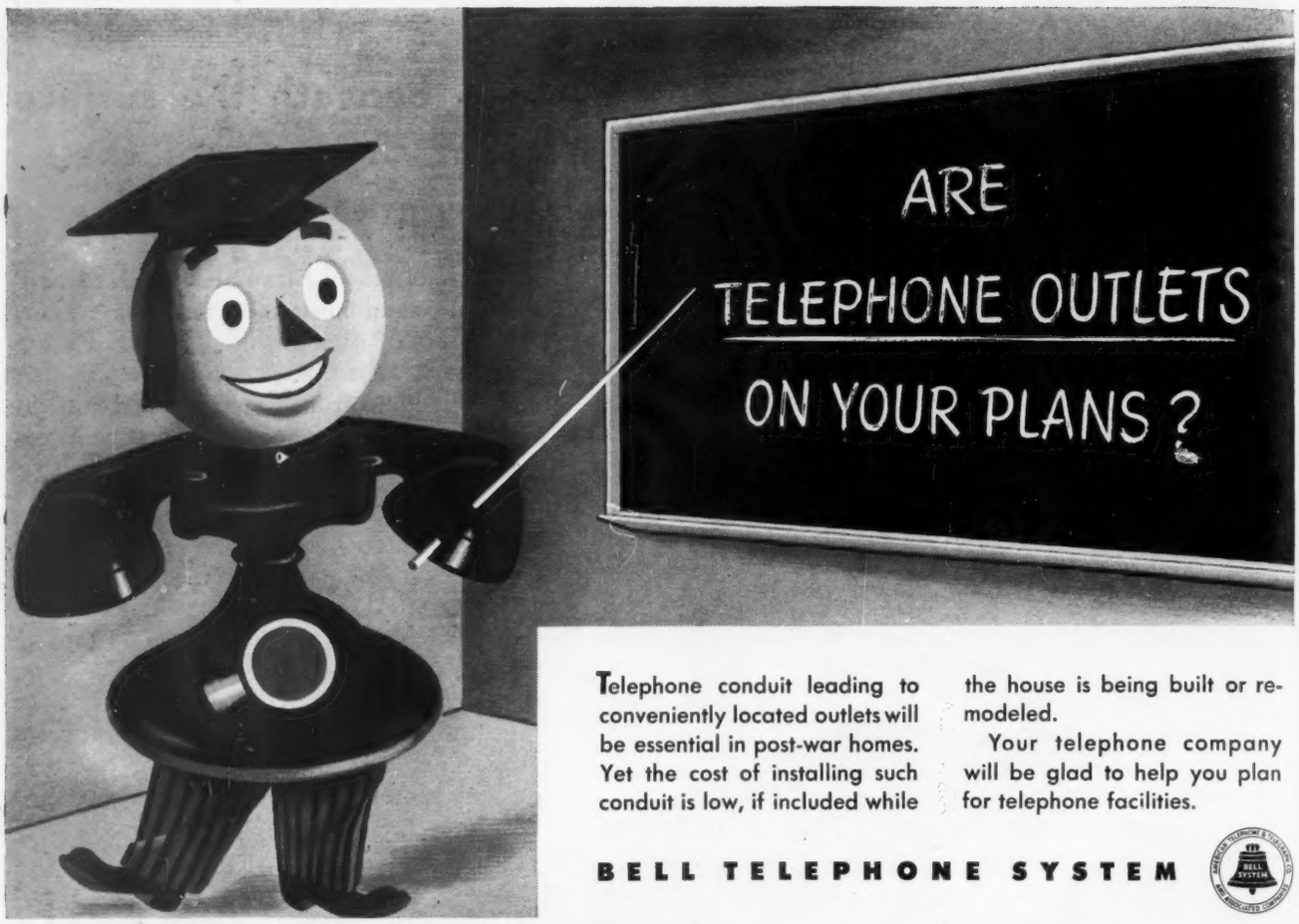

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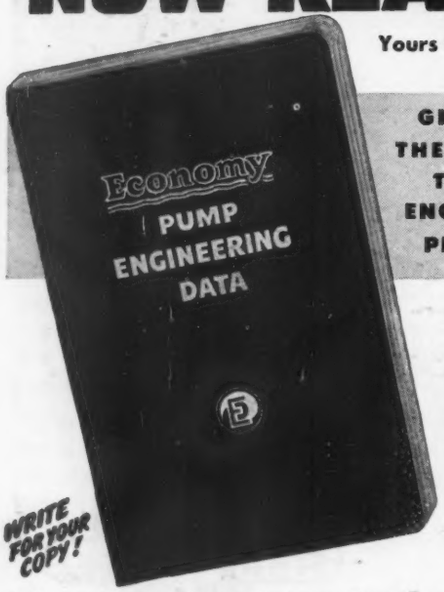

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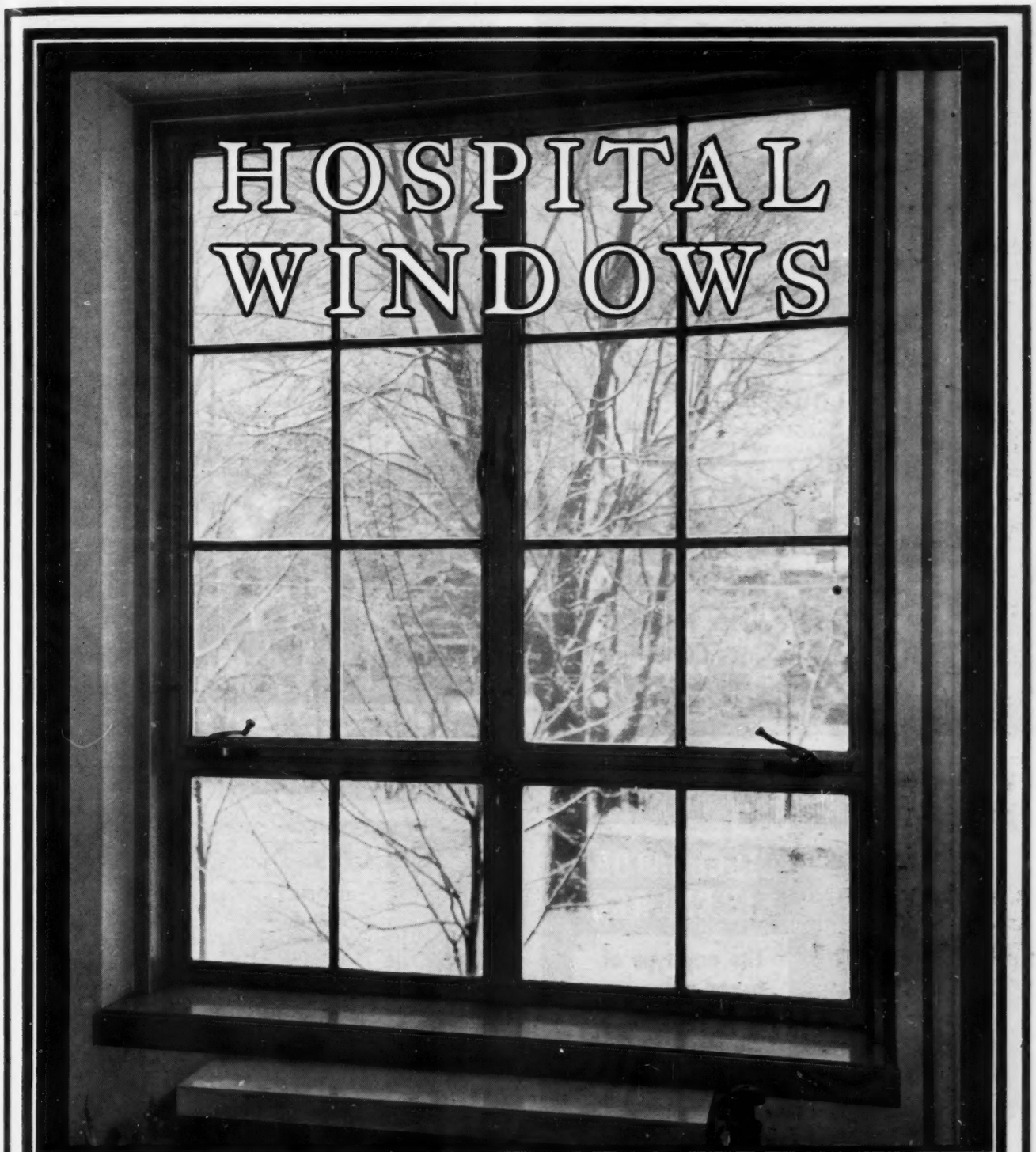

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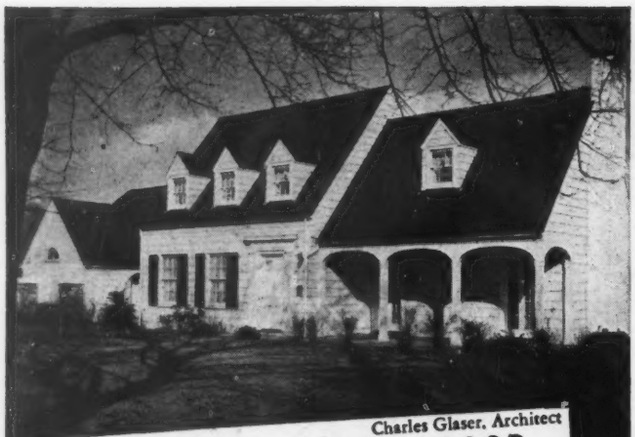

Charles Glaser, Architect

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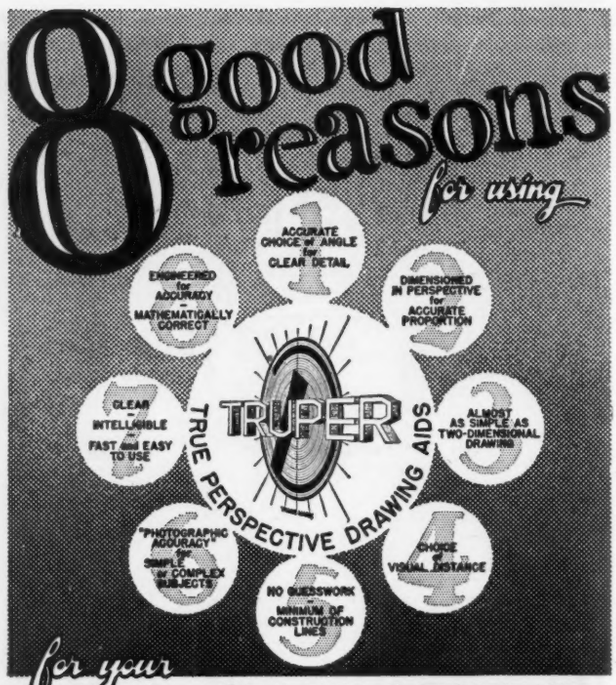
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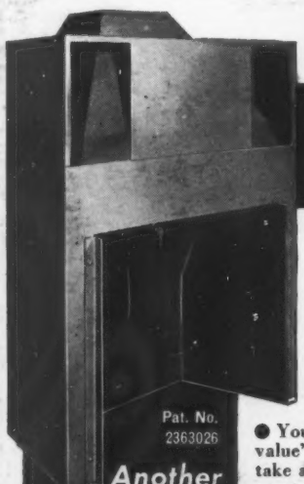

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It's the *really complete* fireplace unit—includes a scientifically engineered dome-damper, insulation-sealing angle irons at sides of the opening, and built-on hooks for exact positioning of the grate basket! The "*Master*" model features "Radiant Blades" (metal fins) that increase heat-radiating surfaces 91 percent! Write for details.

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P.S. In January we will publish further details of the P. & F. Corbin Builders Hardware Merchandising Program. We believe you will be interested.

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New! *Morilla*

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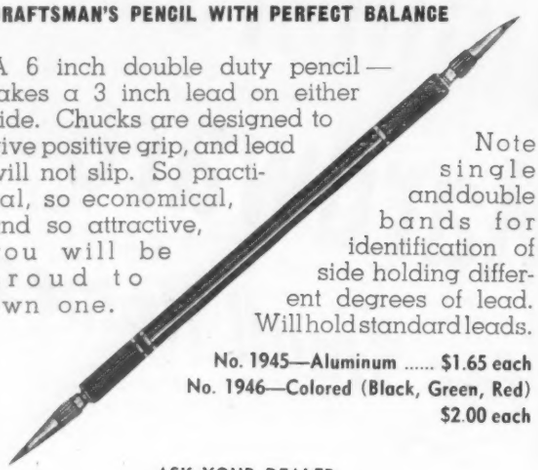
A 6 inch double duty pencil — takes a 3 inch lead on either side. Chucks are designed to give positive grip, and lead will not slip. So practical, so economical, and so attractive, you will be proud to own one.



Note single and double bands for identification of side holding different degrees of lead. Will hold standard leads.

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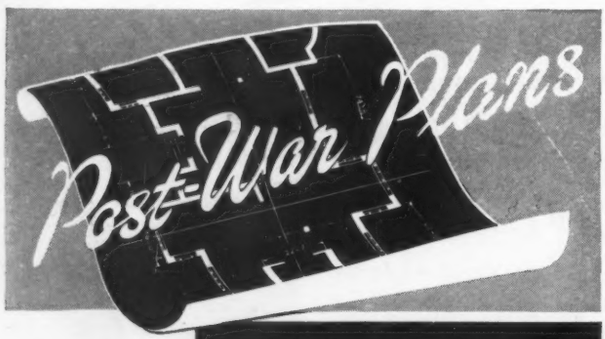

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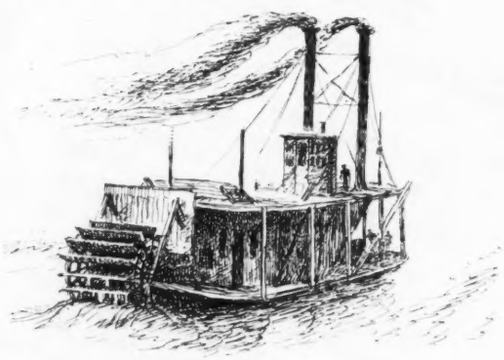

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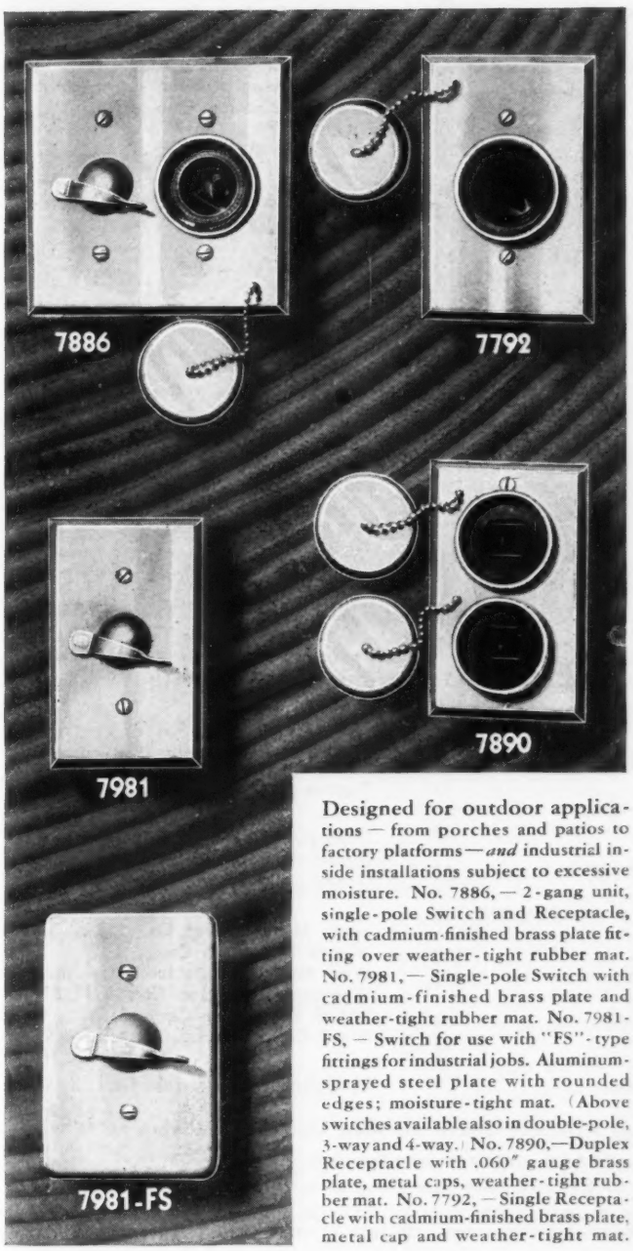

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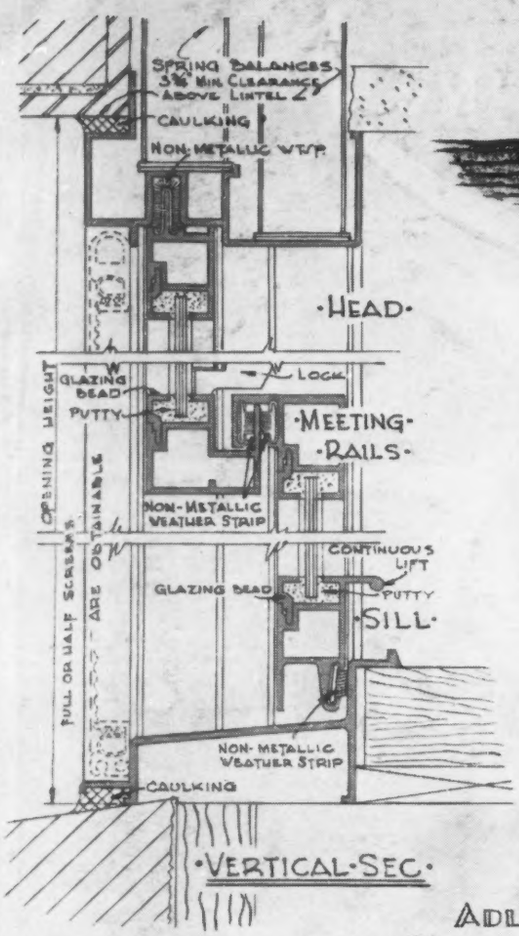

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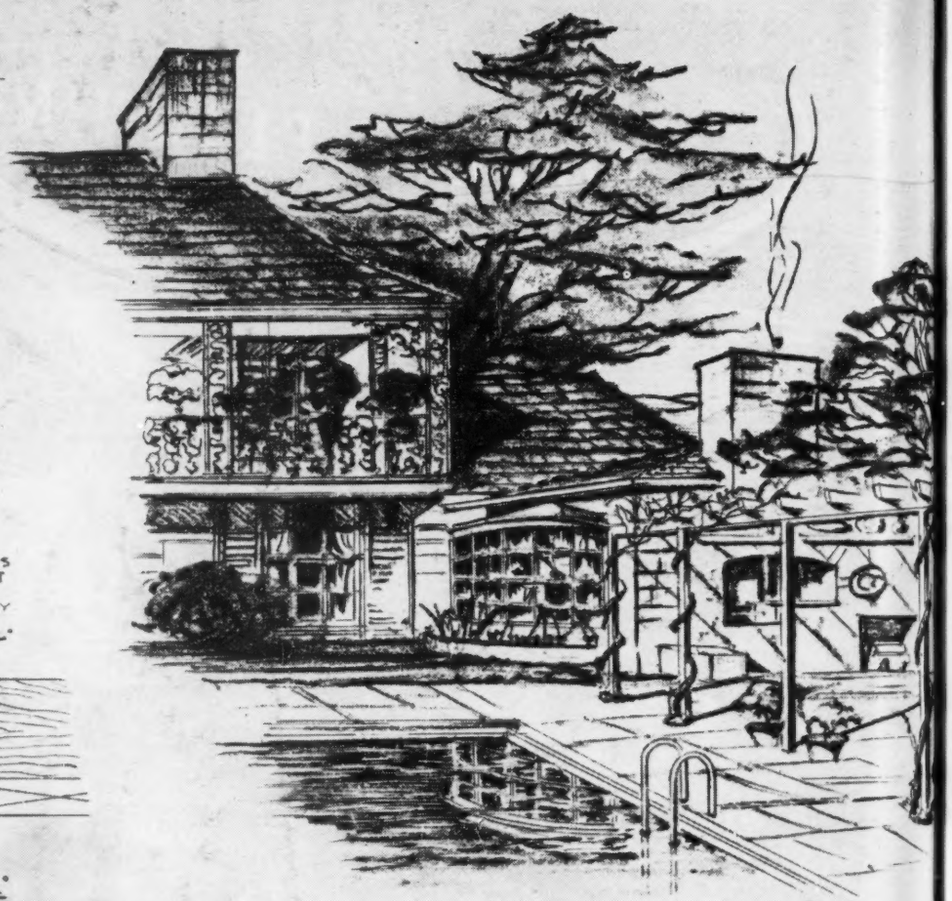

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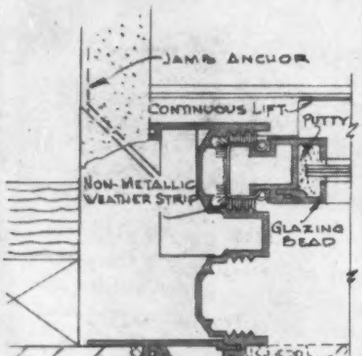

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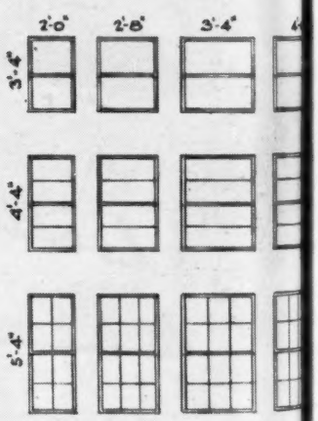

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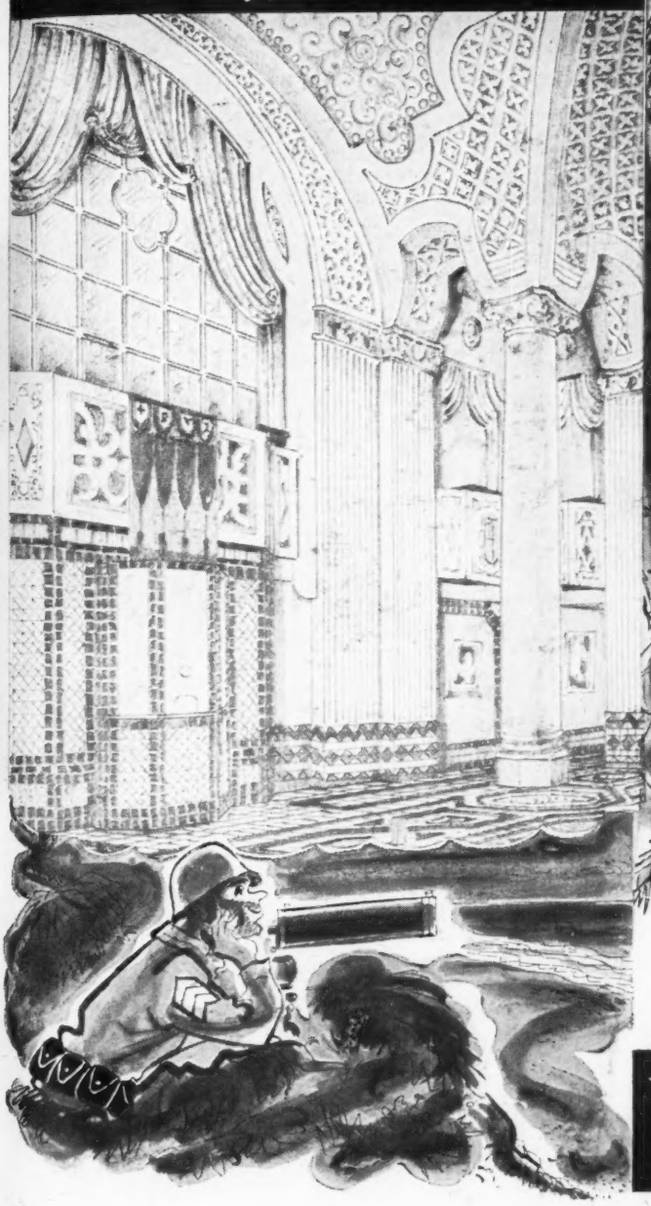

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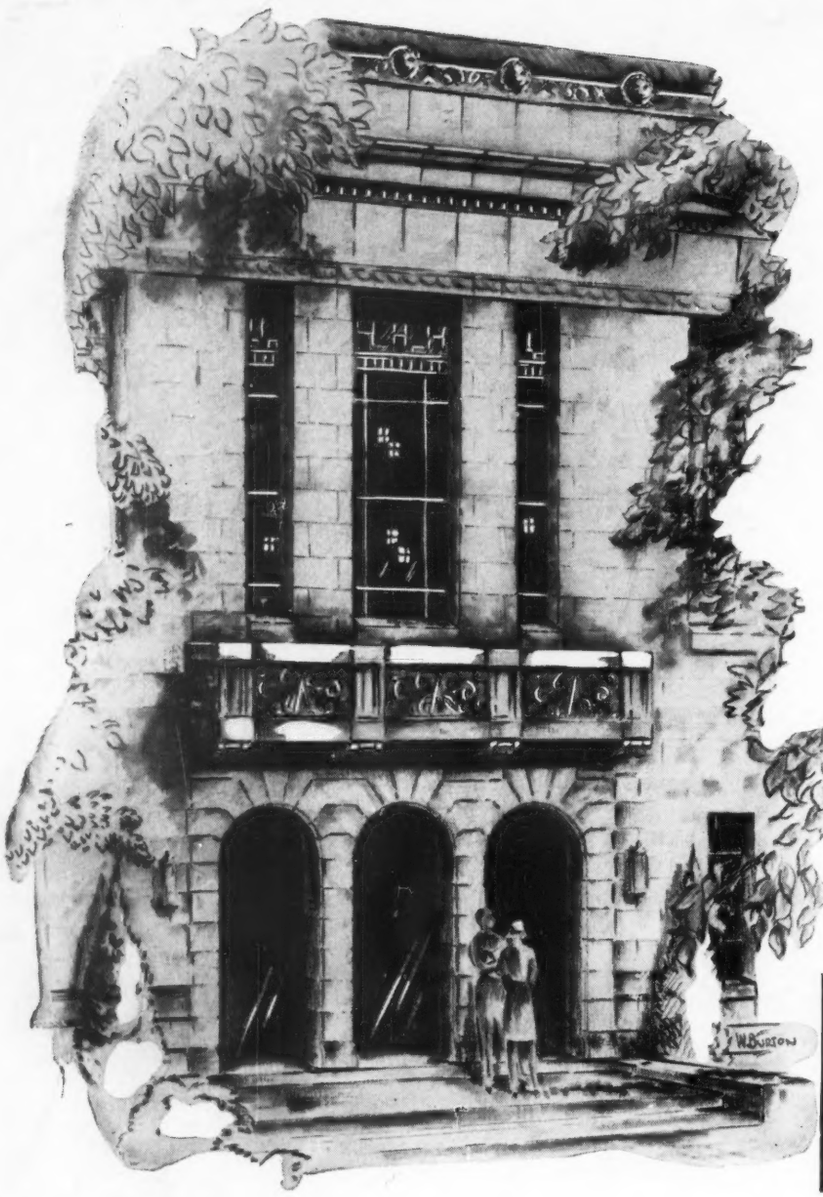

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